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ABSTRACT

Two major state-wide programs in Florida have adopted the Florida Performance Measurement System (FPMS) for the formative and/or summative evaluation of instruction--The Beginning Teacher Program and the Master Teacher Program. Since the state is responsible for compiling and reporting scores in a state-wide system, the Teacher Evaluation Assessment Center (TEAC) was established at the University of South Florida to process data for the Master Teacher Program. Observers using the FPMS in the Master Teacher Program must be trained and certified. Two criterion measures are used as the basis for observer certification: (1) a passing score on a cognitive examination on teacher effectiveness research; and (2) a passing score on two criterion observations using the FPMS summative instrument. The TEAC is responsible for security and maintenance of the cognitive examination and the criterion observation videotapes, their distribution to testing sites, and for scoring and reporting results. This document describes the training of observers, the evaluation methods and criteria used, and the dissemination of results. The appendices present data collected from the Master Teacher component of the program. (JD)

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TEACHER EVALUATION AND ASSESSMENT CENTER

Report for 1984-1985
University of South Florida

SP026680

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SUMMARY

Teacher Evaluation and Assessment Center

The Teacher Evaluation and Assessment Center (TEAC) was established by the Florida Department of Education to certify observers, and score and analyze data from Master Teacher Program (MTP) observations.

In order to be certified, observers must pass a cognitive examination on teacher effectiveness research and criterion observations that test observer accuracy. As of April 1, 1985, 9204 principals and others were certified as FPMS observers. Certification of Student Services and Library/Media personnel is also done through the TEAC.

The procedure for certifying observers worked satisfactorily this year, although changes in feedback procedures (trainer identification), in the order of data on the front side of the summative instrument, and in scheduling assessment dates are recommended to improve these procedures.

A total of 23,643 candidates for Associate Master Teacher status submitted a minimum of two observations each on one of four different instruments, resulting in 48,194 observations processed by the TEAC for the 1984-1985 administration of the Master Teacher Program. Candidates received a notification of receipt for each observation and an observation score report, resulting in 71,586 items mailed to candidates, via district representatives, by the TEAC.

A score distribution was created for each instrument and each combination of instruments used in the Master Teacher Program. Instrument scores were averaged, converted to T-scores and then to the percentile scores reported to the candidates.

The MTP qualifying standard for classroom performance was defined by the legislature as "superior". The legislature also allocated a set amount of funds for MTP awards and the amount of each award. To meet these criteria, the State Board of Education set the cut score at the 75th percentile. Analysis of the data from this year's program indicates that this standard could be lowered for the performance evaluations and still select high performing teachers. This claim is substantiated by the fact that fully 50 percent of the MTP candidates scored at or above the 75th percentile of the 1984 Norming Study, which comprised a representative sample of Florida teachers.

Additional points added to classroom evaluations on the recommendation of the principal, as permitted by state statutes, were not equally applied across instruments. Teacher Assessment and Development System's (TADS) applicants for example, could be awarded up to six points while FPMS candidates could only be awarded 3.3 points. Applied to the Master Teacher distributions this year, if all candidates received the maximum number of points, an additional 31 percent of the TADS candidates would move into the upper quarter of the distribution while only an additional 20 percent of the FPMS candidates would achieve this status. This is inequitable and must be adjusted if additional points are used in future administrations of the MTP.

Master Teacher Program awards distributed fairly evenly across subject areas, instructional modes and grade levels. Award distributions were diverse, however, among districts and schools. Procedural adjustments in the MTP are required to rectify these problems.

The high standard set for the MTP eliminated a large number of candidates, including some who received other awards such as Teacher-of-the-Year. The reasons for such seeming discrepancies may be determined by examining the purposes of the program, the selection criteria and procedures.

Although some modifications are needed to improve the MTP, the FPMS instruments are scientifically sound, and are much more likely to select superior teachers from the standpoint of disciplined classrooms and increased achievement scores than the procedures and instruments used to allocate other awards to teachers.

Recommendations

Observer Certification

1. Assign trainer numbers to facilitate feedback on training effectiveness.
2. Modify the topography of the front of the summative instrument to facilitate keypunching.
3. Develop a state-wide calendar of assessment dates, with a minimum of three weeks lead time, to assure availability of testing materials.

Observation Scoring and Data Analysis

1. Modify the "additional point" system to correct inequities in the scoring procedure.
2. Study relationships among subject area examinations, classroom performance and additional point scores.
3. Include the FPMS aberrant procedure in Board Rule and develop equivalent procedures for the TADS, Student Services and Library/Media systems.
4. Conduct regional training for observers to advise them of the results of the first year of the MTP, to standardize training content and to update their observation skills.
5. Distribute awards on a pro-rata basis by district according to numbers of candidates to avoid gross inbalances of awards among districts.
6. Continue to study norm groups and point adjustments for the FPMS through review of the MTP data, and initiate such study for TADS and the special instruments.
7. Randomly assign observers within districts so that no person observes in his/her school thereby reducing observer bias.
8. Observe the classroom performance only of those MTP candidates who pass the subject area examination.
9. Increase the number of classroom observations from two to four -- two observations by each of two observers.
10. Lower the MTP standard from the 75th percentile to a maximum of the 50th percentile (we recommend the 30th percentile) to qualify a greater number of high performing teachers for the MTP award.

11. Leave the amount of the MTP award flexible to avoid setting artificially high standards based upon funding rather than performance.

12. Advise all teachers of the exact day and period they will be observed so that all teachers have the advantage of specific lesson performance.

Report of the

Teacher Evaluation and Assessment Center

Introduction

Research work conducted by the Teacher Evaluation Project, under the auspices of the Coalition for the Development of the Florida Performance Measurement System, produced a number of products that were subsequently adopted by various State and district programs. These products include the following:

1. A number of publications, including the domain documents that summarize and explicate the empirical research on teacher effectiveness.
2. Formative and summative observation instruments used to diagnose and remediate ineffective teacher behavior, reinforce effective teacher behavior, and evaluate teacher performance.
3. State-wide scale scores and norm scores for evaluating teachers at various grade levels, across subjects and in various teaching contexts.
4. Practice and criterion videotapes of classroom instruction used to train observers and test their coding accuracy.
5. A bank of cognitive examination items used to test observers and evaluators on their knowledge of the research literature on teacher effectiveness.

These products were subjected to varying tests of validity and reliability (FPMS Reliability Study, 1983) and generalizability (FPMS Norming Study, 1984). The results were examined by a team of nationally recognized experts in teacher effectiveness and teacher evaluation and recommended for approval for evaluating teachers in state programs.

Together these products constitute the Florida Performance Measurement System.

Two major state-wide programs have adopted the FPMS for the formative and/or summative evaluation of instruction -- the Beginning Teacher Program and the Master Teacher Program. Several school districts use various portions of the FPMS for annual review and one district is using this system to evaluate teachers for their District Incentives Program.

When a system of evaluation such as FPMS is used across a given population of teachers a number of rules must be followed. These rules include the following:

1. Normed Scores: The instrument must be applied to a representative sample of the population of teachers to be evaluated; and a scoring system based upon the normed distribution(s) that is fair and equivalent across teachers, schools, and districts must be developed.
2. Certified Observers: Persons using the system must be trained and tested for their knowledge and accuracy in coding performance to provide equality of evaluation across teachers, schools, and districts.
3. Observer Bias: Performance must be coded objectively without personal opinion influencing the coding. This may be controlled in two ways:
   a) Using disinterested observers, i.e., observers with no stake in the outcome, or

b) Maintaining a secure scoring system so the observer is unaware of what constitutes high and low scores.

For these and other reasons (e.g. the state is responsible for compiling and reporting scores in a state-wide system) the Teacher Evaluation Assessment Center (TEAC) was established at the University of South Florida to process data for the Master Teacher Program.

The TEAC in 1984-1985 had two primary responsibilities:

1. Observer certification.
2. Master Teacher Program observation scoring and data analysis.

Observer Certification

According to the foregoing rules, observers using the Florida Performance Measurement System in the Master Teacher Program must be trained and certified. Two criterion measures are used as the basis for observer certification: 1) a passing score on a cognitive examination on teacher effectiveness research, and 2) a passing score on two criterion observations using the FPMS summative instrument.

The TEAC is responsible for security and maintenance of the cognitive examinations and the criterion observation videotapes, for their distribution to testing sites, and for scoring and reporting results to sixty-six districts and several special institutions/universities in Florida that use the FPMS. More specifically, this entails making video tapes of classroom instruction*, distributing tapes to testing

*Dr. Ronald Peake, University of West Florida, has directed the

locations, developing and distributing cognitive examinations on teacher effectiveness, scoring criterion video observations and cognitive examinations, reporting scores to school districts, and maintaining current lists of certified observers.

Videotapes are of varying levels (elementary, middle and secondary) and subjects (mathematics, social studies, science, etc). The TEAC maintains a library of 186 FPMS, 27 student services, and four Domain 10 copies of criterion tapes. (Appendix A: criterion tapes by level and subject.)

Cognitive Examination Development

As indicated above, to be certified as an FPMS observer, applicants must pass a cognitive examination that assesses their knowledge of the six domains of effective teaching (Domains: Knowledge Base of the Florida Performance Measurement System). The TEAC maintains an item bank of approximately 500 test items from which 75 items are randomly selected for each examination for certification purposes.

To obtain a cognitive examination and a set of two criterion tapes for purposes of observer certification, an authorized school district representative contacts the TEAC by telephone or by written request. Each request includes the following information: district name, dates of training, date of assessment, number of trainees, size of video tapes, names of trainer and test monitor, and address to which materials

development of the most recent videotapes used in FPMS training and certification.

are to be sent.

From September of 1984 through April of 1985, the TEAC received 173 orders from 52 districts and special institutions/universities for testing materials (Appendix B).

Scoring Observations and Examinations

The initial standard on each criterion videotape is set by averaging item scores coded by trained FPMS observers. Using these standards, applicant scores are then compared with master scores to determine their degree of agreement. The TEAC receives coded FPMS summative instruments for criterion observations and OPSCAN answer sheets for the cognitive examinations from the district representative administering these examinations. TEAC personnel process the information, and report results to districts and to the DOE. The TEAC maintains master files of certified FPMS observers by name, social security number, position, title, and district.

Score Reporting

Names of persons passing the cognitive examination and both criterion observations are added to the official list of certified FPMS observers. Their certification scores are reported to district superintendents who forward the results to the district contact persons. District contact persons then notify applicants of the results. Unsuccessful candidates receive feedback on their coding, indicating overcoding, undercoding, or accurate coding by item and criterion observation (Appendix C).

Feedback is designed to assist candidates in remediating inaccurate coding procedures and to improve their chances of successfully completing future criterion observations. As of April 1, 1985, 9204 persons were certified as FPMS observers, including 1601 principals and 1200 assistant principals in 66 school districts, plus special institutions/universities (Appendix D: Summary of the number of FPMS observers by position and district).

A recently developed feedback program provides trainers with information on the total number of their trainees that pass and fail and lists the items with which their trainees had difficulty (Appendix E: Example of trainer feedback). The TEAC sends feedback to the trainer each time his/her trainees are assessed. The purpose of trainer feedback is to help trainers concentrate on items with which their trainees tend to have difficulty coding accurately.

Researchers in the TEAC constantly monitor trainer and trainee feedback for potential clues to ways in which the FPMS can be improved. A master list of passing rates by trainers is also maintained by the TEAC for the purpose of providing state-wide information on who is conducting training and which trainers may need updating; i.e., those that have low passing rates.

Special Instruments

Two special instruments were developed for the Master Teacher Program during 1984, Library Media and Student Services. Certification for using the Student Services instrument requires criterion observations. Procedures similar to those for scoring FPMS criterion observations are used in scoring student services observations. The TEAC performs this service, as well as maintaining lists of certified student services observers and library media evaluators. Library media assessments are scored by the trainers. Names of those passing the assessments are submitted by the trainers to the TEAC.

Problems to Resolve

Considering the massive use of the FPMS over the past year (e.g. approximately 9,000 persons certified, 51,000 Master Teacher observations processed, and over 2,800 Beginning Teacher observations processed) the TEAC, a new entity in 1984-1985, has functioned very well with few problems. As with any new system, however, improvements could be made. They include the following:

1. Several times during the year, assessment materials were requested only a few days before examinations were to be administered. The TEAC needs at least two weeks of lead time to get assessment materials packaged and mailed to the districts.
2. Districts should order two to five extra examinations to avoid late changes in the number required for each assessment.

3. Special care must be taken by trainees to print all information on the front of the instrument clearly.
4. Coding should be summed by item on all observations and the number written in the corresponding cell (sum the tally marks in each cell, on the instrument).
5. When observations are sent back to districts for correction, their prompt return will facilitate completion of processing.
6. When information is needed (e.g. positions of observers -- principals, etc.) from districts, prompt responses will facilitate program implementation and maintenance of accurate files.

These problems and suggestions are being communicated to district contact persons for purposes of improving the TEAC's services. Other improvements and developments that will be implemented by the TEAC in 1985-1986 include:

1. Assignment of numbers to trainers, to be keypunched with assessment information, for improving the accuracy of feedback provided to trainers.
2. Modification of the front of the summative observation form for certification purposes in order to facilitate keypunching (Appendix F).

Master Teacher Program Observation Scoring and Data Analysis

The Associate Master Teacher endorsement for the State Master Teacher Program was initiated during this reporting period (1984-1985). An

award of $3,000 was fixed by the legislature and adequate funds were appropriated to provide a maximum of 6333 awards.

Criteria for eligibility include:

1. Four years of teaching experience, two of which must have been in Florida.
2. A professional service contract or continuing contract.
3. A superior score on a subject area examination, or a Master's Degree in areas in which subject area examinations were not approved or did not exist.
4. A superior performance evaluation score.

The Teacher Evaluation and Assessment Center, under contract to the Florida Department of Education, was charged with receiving and scoring the performance observation instruments for this program, constructing percentile distributions of observation scores and notifying candidates of their performance scores. (Procedures for processing these data are outlined in Appendix G.)

Four instruments were used to determine candidates' performance scores:

1. Florida Performance Measurement System, Summative Instrument (FPMS).
2. Teacher Assessment and Development System - Master Teacher Program (TADS - MTP).
3. MTP Library Media Instrument.
4. MTP Student Services Instrument.

Candidates were observed using a single instrument or a combination of two instruments, depending upon their area of specialization. This resulted in ten distributions by instrument type, as set forth in Table 1. This table also includes the range of scores, the interquartile range (Q1 - Q3) and the modal score for each instrument or combination of instruments.

TABLE 1

Number of Candidates by Instrument Type and Distribution*

	No. of Candidates Observed	Percent	Range	Q1-Q3	Mode
1. FPMS Elementary	8,027	34.0	71	13	52
2. FPMS Secondary	10,381	44.0	69	13	51
3. TADS	3,222	13.6	58	13	61
4. Student Services	1,559	6.6	80	14	57
5. FPMS Elementary, Lib Med	146	0.6	50	11	61
6. FPMS Secondary, Lib Med	145	0.6	35	9	53
7. FPMS Elementary, Stdt Svc	111	0.5	37	10	41
8. FPMS Secondary, Stdt Svc	23	0.1	34	8	48
9. TADS, Lib Med	24	0.1	35	18	61
10. TADS, Stdt Svc	5	0.02	15	13	44

*Non-Normalized T-Score Distributions

The number of persons observed with each instrument or combination of instruments ranged from five to 10,381 candidates. A total of 23,643 candidates submitted a minimum of two observations on one of four different instruments, resulting in 48,194 observations. All of these were processed by the TEAC for the 1984-1985 administration of the Master Teacher Program.

By examining plots from scores on each of these instruments, the shape of the distributions produced by the rating scales can be compared to those of the observation instruments. Rating scales such as TADS and Library Media, where observers judge quality of performance or products, tend to produce "J" shaped distributions of total scores with serious ceiling effects. Thus, a substantial number of candidates received perfect scores on the TADS and Library Media instruments. On the other hand, the FPMS and Student Services instruments resulted in peaked yet fairly normal distributions with no ceiling effects, as is typical of observation instruments where quality of performance is not rated by the observer (Appendix H).

When scores tend to bunch up at the top of a distribution, as they do in "J" shape distributions, the instrument becomes less effective in discriminating among candidates at the top end of the scale. However, the goal in this program by law and Board Rule was to identify the top 25 percent. Slightly over three percent of the candidates were at the 75th percentile for TADS and slightly over two and a half percent were at the 75th percentile for both FPMS elementary and secondary distributions. Thus, both instruments discriminated at this level.

Instrument Scoring

Scoring of the two rating scales, TADS and the Library Media instruments, is conducted by summing the rating of each item into a total instrument score and averaging the scores of two or more observations. These scores are then placed into a distribution of scores of all candidates using each instrument.

Scoring of the observation instruments, FPMS and Student Services, is conducted by scaling items using the interquartile method, adjusting for lesson length (Norming Study, 1984), summing item quartile scores (inverting scores on ineffective indicators), and adjusting total score for instruction format. Total observation scores are averaged across the two observations and the average scores are placed into a distribution of scores of all candidates using each instrument. (For a complete description of quartile scoring of the FPMS, see the Norming Study, 1984.)

Scores from each of the foregoing distributions are then converted to T-scores to create common scores across all four instruments. T-scores, with a mean (x) of 50 and a standard deviation of 10, are then averaged for candidates who are evaluated with more than one instrument. For example, FPMS and Library Media. Thus, 10 distributions were created for the Master Teacher Program. The total range of scores from the Master Teacher Program, the mid 50 percent range (Q1-Q3) and modal scores are reported for each instrument in Table 1.

Finally, percentile scores, by percent below plus percent within the score interval, were computed for each distribution and reported to each candidate.

Score Reporting

The TEAC notified candidates, via county contact persons upon receipt of each observation. Observation score reports were distributed in the same manner. This procedure required preparation of 71,586 notices -- three to each candidate.

A major problem encountered in accounting for all observations (over 50,000) was that many envelopes were addressed inaccurately or incompletely by district personnel. As a result, the TEAC received stray mail containing observations which had been sent to various locations on and off the USF campus, particularly to the State Department of Education. A second, but equally important, cause of misplaced observations was incomplete or inaccurate information provided by district personnel. For example, the TEAC sent several score results to Sarasota District that should have gone to Seminole District because district personnel coded an incorrect district number.

For legal and morale reasons, wording of score notices to candidates was a difficult task. This was undertaken by the State Department of Education. Two types of score reports were developed:

1. A report of a percentile score for those candidates at or above the 50th percentile.
2. A report not including a specific percentile score for those candidates scoring below the 50th percentile (Appendix I).

Additional Evaluation

In debating the criteria used to identify "superior" teachers for the Master Teacher Program, the legislature judged the use of classroom performance measurement instrument score potentially inadequate for selecting these teachers. Therefore, they made legal provision for principals to add additional points (which must be approved by the State Commissioner of Education) to teachers' performance scores. Accordingly, an instrument was developed for this purpose. (Chapter VIII of the Teacher Evaluation Project Report, 1985.)

The maximum number of additional points that can be added to a teacher's performance score is the equivalent of 10 percent of the median score of each instrument. (Norming Study median scores were used for FPMS and TADS.) This meant that up to six points could be added to TADS scores and three and three tenths points to FPMS scores.

Evaluation of the principals' additional points had not been completed by the State Department of Education at the time this report was written. For comparative purposes, however, if all TADS applicants received the maximum of six points, given the Master Teacher distribution for that instrument, an additional 31 percent of the applicants would move into the top quarter of the distribution; an additional 20 percent of the FPMS elementary applicants and an additional 20 percent of the FPMS secondary candidates would move into the upper quarter.

Because of the additional points' influence on scores, this procedure must be examined for the following factors:

1. The process must be examined to determine if all candidates have equal opportunity to receive additional points. For example, consideration should be given to having the teachers initiate the documentation of the additional points with subsequent certification by the principal.
2. The influence of additional points must be examined and modified to assure equal chance of reaching the upper quarter of the distribution across instruments.
3. Methods of scoring the additional point instrument should be examined to reduce subjective judgment in that procedure.
4. Items on the additional point instrument and instrument scores should be examined in relation to measures of student outcomes to determine if these scores add to the selection of "superior" teachers.

Aberrant Observations

Aberrance, for purposes of teacher evaluation, is defined as scores of classroom observations that are "unusual". In order to detect aberrant coding of an observation instrument, extensive norming must first be conducted. The FPMS was the only instrument used in the Master Teacher Program with adequate norming data to detect "unusualness" of coding. It was, therefore, the only instrument whose observations were analyzed for aberrance. Aberrance on the FPMS is defined as scoring at or above the 90th percentile of the Master Teacher distributions on selected items or groups of items.

Observations could be cited as aberrant for several reasons, including:

1. Unusually high or low frequency of behavior demonstrated by the teacher during the observation.
2. Inappropriate procedures followed by the observer when coding the instrument.

The aberrance check and re-observation option are important for three reasons:

1. A single aberrant observation may have more error than a single non-aberrant obervation. It may be less "accurate" than other observations.
2. The occurrence of aberration points to the need for updating observers' training.
3. It may reduce the propensity for observers to give "bonus tallies" to teachers -- if this occurs.

Distribution of Awards

Time did not permit analysis of the distribution of awards for all four instruments, but partial analyses were conducted on the FPMS distributions, since this instrument was used to observe approximately three out of four of all candidates that participated in the Master Teacher Program. Data from the 1984 FPMS Norming Study showed a difference in group scores between grade levels K-5 and K-6. Two normed groups were created as a result of this finding. We also found that scores varied among the type of instruction format used by the teacher

(i.e. lecture, discussion, independent study, combinations) during the observation. Correcting factors were assigned these variations. No differences were found in distributions among subject areas.

Distributions of teachers attaining a 75th percentile score or above for the Master Teacher Program are reported in Tables 2, 3, and 4.

TABLE 2

Distribution Across Subject Area

Subject	Number of Applicants	Percent in Top 25% of Final Distribution
Language Arts/Social Science	7461	27.6
Math/Science	4875	25.8
PE/ROTC	807	20.6
Business/Vocational	1297	24.1
Home Economics/Art	494	25.5
Special Education	1566	36.0
Other	1281	29.5

Examination of these tables shows reasonably equitable distributions of candidates attaining a score at the 75th percentile or above. This is generally true across subject areas, with only special education having a questionably high percentage. Due to the large number of cases for each category, one may treat these statistics as reasonably accurate estimates of the population parameters. The high percentage for special educators may result partially from the increased number of behaviors included in the coding manual developed by the Exceptional Student Education Task Force. These results suggest that the additional

TABLE 3

Distribution Across Instructional Mode

Instructional Mode	Number of Applicants	Percent in Top 25% of Final Distribution
1. Lecture	280	23.9
2. Discussion, Recitation	3278	24.3
3. Independent Study	492	27.6
1 and 2	3977	28.4
1 and 3	482	21.0
2 and 3	3924	24.0
1, 2 and 3	5744	31.2

TABLE 4

Distributions by Grade

Grade	Number of Applicants	Percent in Top 25% of Final Distribution
K	1138	32.3
1	1216	33.4
2	1283	27.8
3	1466	26.3
4	1431	23.1
5	1309	22.5
6	1178	38.8
7	1398	28.1
8	1429	24.8
9	1536	24.3
10	1419	22.8
11	2123	24.0
12	832	26.8

indicators may give special education candidates an advantage over other groups of candidates such as mathematics, science, vocational, etc., in the Master Teacher Program.

Distributions across instructional mode were fairly equal. However, grade level distributions present some problems, with the first two grade levels of each norm group (K - 5 and 6 - 12) qualifying a substantially greater number of teachers than the later grades (2 - 5 and 8 - 12) in each norm group.

This should be studied, since perhaps as many as three or four groupings may most accurately represent the score distributions (i.e., K-3, 4-6, 7-9, 10-12).

Distributions by districts, however, did not equate as well as the factors cited above. Some districts have no candidates in the upper quarter of the distribution while others have considerably more candidates than the expected 25 percent (Appendix J).

Some of the discrepancy among districts is attributable to the number of applicants from each district. All districts with no applicants in the top quarter of the distribution had 12 or fewer applicants. However, considering only districts with over 1000 applicants (of which there are six), the percent of applicants in the top quarter ranges from 15 to 32. Further analysis of the Master Teacher data, however, showed wide variation by school in the percentage of applicants in the upper quarter of the Master Teacher Program distribution. For example, 1004 schools (38 percent of the schools) had no candidates in the upper quarter. Some of the factors that could cause these unexpected differences among schools are as follows:

1. Participation in the program is voluntary. Some differences would, therefore, be expected, since the sample is not representative of the Florida teacher population.

2. In some districts, very few teachers participated in the program, again resulting in a sample that is not representative of the population.

3. Some districts, Broward for example, conducted workshops in research on teacher effectiveness and in the observation and evaluation procedures. This is desirable, since such work improves instruction and is likely to raise student achievement scores. All else being equal, the more training, the higher the percentage of successful candidates one would expect. This indeed was the case in Broward County with 33 percent of the teachers at or above the 75th percentile in the Master Teacher Program.

4. In some districts, administrators advised teachers of the exact day and hour they were to be observed, while in other districts the teachers were not given such specific notification. This would allow some teachers to prepare their lessons for observation, while others would lack such an advantage.

5. Some districts encouraged their teachers to prepare special lessons, while others attempted to observe teachers conducting "regular" classroom instruction.

6. Observer bias may explain part of the variation among schools and among districts. Observers must not evaluate when coding teacher performance using the FPMS. Use of the FPMS is predicated on first coding teacher behavior in the classroom (the observer's task) and then evaluating these scores later by comparing them with the normed results of all observations (the data analyst's

task). It is understandable that the administrators (observers) want their teachers to perform well; however, if this concern affects their coding, it reduces objectivity and defeats the purpose of the system.

If one believes that the variations in the percentage of teachers attaining superior scores across schools and across districts is not justifiable, at least to the degree exhibited in the 1985 administration of the Master Teacher Program, then there are at least two procedural modifications that could be made to rectify this problem:

1. Prorate a number of awards to districts according to the number of their candidates who take the subject area examinations and complete the observations. This would guarantee more equitable distribution of awards across districts and encourage teachers in all districts to participate in the program.
2. Do not permit an observer to observe in his/her own school and randomly select certified observers within each district to conduct observations. This would reduce the possible effects of the vested interest principals have in getting as high a percentage of their teachers as possible into the award pool.

Although the same examinations and criterion tapes are used across the state to train and certify observers, it is important that rules and concepts of the observation systems used in the MTP be thoroughly explained in like manner to all observers. This will maintain the reliability and validity of these systems across the state, thereby increasing the probability that a given percentile score in one district

is equivalent to the same percentile score in another district. To improve equality of training state-wide, regional training sessions are suggested in which trainers from several districts would participate. This increased communication should result in greater uniformity of methods for teaching rules and concepts.

Selection of Superior Teachers

A big question centers on whether or not the best teachers were selected for Associate Master Teacher status. Since participation was voluntary, it may be assumed that all candidates perceived themselves worthy of the Associate Master Teacher status. We also know from the news media, telephone calls, and letters that many teachers considered by their administrators as "superior" scored below the 75th percentile. In some cases, winners of such awards as Teacher-of-the-Year fell below the 75th percentile.

It is important to note that the nature of the persons surviving any selection procedure is dependent upon three factors:

1. The purposes or goals of the selection procedure.
2. The criteria used in the selection, and
3. The accuracy of the selection procedure.

The concern in Florida, as repeatedly expressed in the Merit Council during the development of the Master Teacher Program in 1983-1984, was to reward knowledgeable teachers who conducted their classrooms in a business-like manner and whose students achieved higher than those of other teachers. On the surface these purposes seem simple, but in practice it is a tall order to select teachers who meet these criteria.

To select teachers who satisfy these requirements, new subject area examinations were developed to assess teachers' knowledge, and existing observation systems were adopted to assess teacher performance. Approval of the observation instruments for classroom observation was dependent upon their meeting state criteria of validity and reliability and being normed.

Observers using the FPMS were trained, tested by using criterion measures, and certified prior to making classroom observations for the Master Teacher Program. Although the possibility of error still exists, it is greatly reduced when following procedures as strict as those set for the Master Teacher Program. Indeed, when tested in predictive validity studies, the FPMS has shown that observation scores on this instrument have a positive relationship with both student task engagement and measures of achievement (FPMS Predictive Validity Studies, 1985).

Master Teacher Program procedures for selecting high performing teachers could be improved, however, by increasing the number of observations (Kay, Evertson, and Mitzel, 1985). If candidates were required to pass subject examinations before being observed for classroom performance, it would reduce the number of persons to be observed by three-fourths. That is, only one out of four candidates would have to be observed if the 75th percentile standard continued to be applied to subject area examinations. Thus, following this procedure with the same number of applicants, the number of observations per candidate could increase from two to four, but the total number of required observations would still be reduced.

If the Master Teacher Program is to meet its goals of rewarding knowledge and best practice, then we must set aside emotions and personal biases, as is evident in selections made by personal or administrative opinion, and work toward the objective selection of persons for this status. This requires following tested procedures that research has shown to be best practice.

Setting Standards

One of the key factors to examine in rethinking the Master Teacher Program is the setting of standards. Public mandate in 1983-1984 appeared to be to reward only a few of the best teachers. The Legislature used the term "superior" to define Associate Master Teachers. The legislature also appropriated a set amount of funds and set the amount of the reward.

With these variables locked in, the State Board of Education set the minimum qualifying standard at the 75th percentile. Given the limits cited above, and not knowing to what degree the upper quarter of the subject area examinations would overlap with the upper quarter of the classroom observations, this was a logical decision.

However, the data from the first year's experience with the Master Teacher Program and the additional data from predictive validity studies on the FPMS suggest that the 75th percentile standard should be reevaluated, as should the practice of locking in both the total amount allocated to the Master Teacher Program and the amount of the awards.*[2]

[2] *This discussion is limited to the Master Teacher Program candidates

The first concern regards the quality of the teachers selected. We have three sets of norms for the FPMS -- beginning teacher norms, norms from a study conducted on a representative sample of Florida teachers, and norms for Master Teacher Program candidates. As one would expect, median scores for beginning teachers are lower than median scores on the norming study, and median scores for the Master Teacher candidates are higher than those of the norming study.

Comparison of beginning teacher scores with master teacher scores is of questionable value for present purposes, but an interesting relationship exists between the norming study distributions, which should be representative of all Florida teachers, and the Master Teacher Program distributions. These data show that the mean and median scores on the FPMS are significantly higher in the Master Teacher Program distributions, so much higher that if the 75th percentile scores of 36 and 34 for elementary and secondary teachers from the norming study were applied to the Master Teacher distribution, 61 percent of the elementary candidates and 42 percent of the secondary candidates would have qualified for Associate Master Teacher status in this year's program (Table 5).

Since principals observed in their own schools this year, part of this difference may possibly be attributed to bias. Also, if teachers prepared special lessons for Master Teacher Program observations this may tend to raise these scores. However, without data to the contrary, we assume that the majority of the difference can be attributed to

scored by the FPMS since it is the only instrument with adequate norming and predictive validity data to create data based criteria.

TABLE 5

Comparison of FPMS Norming Study and MTP Scores

	N	Mean	Median	75th	# Qualifying	
					Master 75th	Norming 75th
Elementary Level						
Master Teachers	7922	37.2	37.5	41	2162	4875
Norming Study	479	32.4	32.0	36	52	125
Post Elementary Level						
Master Teachers	10296	32.8	33.0	36.5	2818	4400
Norming Study	727	29.5	30.0	34	114	213

superior quality of teaching performance in the Master Teacher distributions compared to the Norming Study distributions. This lends credibility to lowering the Master Teacher Program standard from the 75th percentile to approximately the 50th percentile without compromising the goal of awarding superior teaching.

We also examined the data from predictive validity studies completed to date. Although findings from these studies are tentative and must be replicated, they show that scores on the FPMS correlate significantly with student engagement and moderately with student achievement (FPMS Predictive Validity Studies, 1985). The direct linking of FPMS scores to student achievement scores is such that we can predict with some assurance that students of teachers scoring in the upper 50 percent of the FPMS norming sample will have higher achievement scores than students of teachers scoring in the lower 50 percent of the FPMS normed distributions.

Future predictive validity studies may fine tune this instrument to the point where finer discriminations can be justified, but we suggest that for now discrimination beyond an upper and lower half of effectiveness is tenuous.

Recommendations

1. Examine accuracy and fairness of the additional point scoring procedure for:
   a) variations across instruments (FPMS, TADS, and special instruments) in the number of additional points that can be added to candidates' scores.
   b) variations in the number of points assigned to candidates by item on the additional point instrument.
2. Study the relationship, and implications of the relationships, among subject area examinations, classroom performance and additional point scores.
3. Give official recognition to the aberrant procedure in Board Rule and develop procedures for detecting aberrance for TADS, Library Media, and Student Services evaluation systems.
4. Conduct regional training for observers to advise them of MTP outcomes, to continue to standardize the content of training across the state and to update observation skills.
5. Prorate the number of MTP awards to districts according to the number of candidates who take the subject area examinations and complete the observations.

6. Continue to study norm groups and point adjustments for the FPMS through review of MTP data; and, initiate such study for TADS and the special instruments.
7. Randomly assign observers within districts so that no person observes in his/her school thereby reducing within district bias.
8. Observe the classroom performance only of those MTP candidates who pass the subject area examinations.
9. Increase the number of classroom observations from two to four -- two observations by each of two observers.
10. Lower the MTP standard for classroom performance from the 75th percentile to a maximum of the 50th percentile (we recommend the 30th percentile) to qualify a greater number of high performing teachers.
11. Leave the amount of the MTP award flexible to avoid setting artificially high standards based upon program funding rather than performance.
12. Advise all teachers of the exact days and periods they will be observed so that all teachers have the advantage of specific lesson preparation.

Appendix A

Florida Performance Measurement System Criterion Videotapes

Regular FPMS

Tape#	Tape Name	Grade Level	Subject	# of Copies
1	Pugh	Kindergarten	Social Studies	32
2	McLendon	Senior High	Chemistry	33
3	Pugh	Kindergarten	Math	21
4	Hecker	11th	English	21
5	Goodwin	6th	English	24
6	Armstrong	12th	English	21
7	Williams	Senior High	Chemistry	24
8	Banks	9th - 10th	Algebra	21

Student Services

Tape#	Tape Name	Grade Level	Subject	# of Copies
1	White	Elementary	Consultation	27
2	Nesbitt	Secondary	Career Counseling	27

Criterion Tapes

Domain 10

Tape#	Tape Name	Grade Level	Subject	# of Copies
1	Pettis	Secondary	Consultation	2
2	Hines	Elementary	Consultation	2

Appendix B

Assessment Orders by Districts

Regular FPMS

District Number	District Name	Total # of Assessments	Training Dates	Assessment Dates
1	Alachua	4	10-18, 19, 20	10-23
			12-18	12-18
			Retakes	1-8
			Retakes	2-5
2	Baker	0		
3	Bay	0		
4	Bradford	0		
5	Brevard	5	10-3, 4	10-5
			12-3, 4	12-7
			1-15	1-17
			2-5	2-5
			2-20, 21	2-25
6	Broward	6	10-3, 10, 17	10-30, 11-2
			12-5, 6, 13	12-13
			1-18, 23, 24	1-25
			3-21, 22	3-22
			Retakes	4-22
7	Calhoun	0		
8	Charlotte	3	10-2, 3, 4	10-3
			11-5, 6	11-7
			11-13, 14	11-15
9	Citrus	2		1-22
			4-30, 5-1	5-1
10	Clay	1	12-5, 6, 7	12-7
11	Collier	2	October Retakes	11-13
			12-12, 18	1-9
12	Columbia	1	11-26, 27	11-30
13	Dade	0		
14	DeSoto	1	10-15, 16, 17	10-17
15	Dixie	0		

Regular FPMS

District Number	District Name	Total # of Assessments	Training Dates	Assessment Dates
16	Duval	15	10-10, 11, 12	10-11
				10-25
				11-1*
				11-8*
			10-30; 11-6, 8	11-8*
			11-1, 7, 9	11-9
			11-14, 16	11-16
			11-13, 15, 20	11-20
			12-3, 5, 7	12-7
			1-3, 7, 9	1-9
			1-4, 8, 11	1-11
			1-28, 30	1-30
			1-28, 30; 2-4	2-4
17	Escambia	2	9-19, 20, 21	9-21
			12-4, 5	12-5
18	Flagler	0		
19	Franklin	0		
20	Gadsden	5	10-8, 9, 10	10-10*
			11-5, 6, 7	11-6
				11-7
			Retakes	12-20
			Retakes	2-15
21	Gilchrist	0		
22	Glades	0		
23	Gulf	1		11-20
24	Hamilton	0		
25	Hardee	1	1-9, 10, 11	1-11
26	Hendry	0		
27	Hernando	6	11-5, 12, 19, 26	12-3
			Retakes	1-14,
				1-21
			Retakes	2-11
			Retakes	4-2
			4-29; 5-1	5-2
28	Highlands	0		
29	Hillsborough	9	9-17, 18	9-18
			10-29	10-29
			11-5, 14, 19, 20	11-26
			12-14, 18	12-14
			Retakes	12-18
			Retakes	1-8
			Retakes	1-31
			2-12, 19, 26	3-5
			2-13, 20, 27	3-7
30	Holmes	0		

Regular FPMS

District Number	District Name	Total # of Assessments	Training Dates	Assessment Dates
31	Indian River	1	10-8, 9	10-10
32	Jackson	1		11-19
33	Jefferson	3	9-20	9-20*
			9-17, 18;	
			10-4, 20, 30	11-26
			Retakes	1-22
34	Lafayette	0		
35	Lake	3	10-19, 22	10-22,
				10-24
			1-10, 11	1-11
36	Lee	6	10-1, 2, 3	10-3
			10-8, 9, 10	10-10
			11-12, 13, 14	11-14
			11-26, 27, 28, 29	11-29
			1-7, 9, 11	1-11
			2-13, 14	2-15
37	Leon	5	10-16	10-16
			10-30	10-30
			12-7	12-7
			1-31	1-31
			2-26; 3-14	4-16
38	Levy	0		
39	Liberty	0		
40	Madison	1	10-8, 9	10-12
41	Manatee	2	9-18	9-18*
			10-12, 14	10-15
42	Marion	4	10-25, 26	10-29
			11-28, 29, 30	12-4
			1-7, 8	2-25
			6-24, 25, 26	6-26
43	Martin	1	12-17, 18	12-19
44	Monroe	4	10-11, 12, 13	10-13
			11-1, 2	11-3
			Retakes	12-21
			1-31; 2-1, 2	2-2
45	Nassau	1	4-10, 17	5-1
46	Okaloosa	3	10-10, 17, 24	
			11-3, 7, 14	11-19
			1-3	1-11,
				1-15
47	Okeechobee	1	12-3, 4	12-10

Regular FPMS

District Number	District Name	Total # of Assessments	Training Dates	Assessment Dates
48	Orange	9	9-13, 14	10-16, 10-29
			10-16	10-16, 10-16
			11-5, 6, 7	
			11-12, 13, 14	11-14
			12-3, 4, 5	12-5
			1-24	1-28
			Retakes	2-4
			3-7, 8, 14, 15	3-18
49	Osceola	2	12-3, 4	12-10
			2-12, 13	2-14
50	Palm Beach	10	10-23, 24	10-24
			10-30, 31	10-31
			11-20, 21	11-21
			1-11	1-14
			2-26, 27	2-27
			3-13, 14	3-14
			4-23, 24	4-24
			4-26, 27	4-27
			5-1, 2	5-2
			5-13, 14, 15, 16	5-18
51	Pasco	2	9-26, 27, 28	9-28
			11-28, 29, 30	11-30
52	Pinellas	9	12-10, 11, 12, 13	12-10, 12-10, 12-12, 12-12, 12-17, 12-17, 12-19, 12-19
			1-23, 24	1-24
53	Polk	9	9-26, 27, 28	9-28
			9-28, 29	10-1
			11-13, 14, 15, 26, 27, 28	11-29, 11-30, 12-3, 12-4, 12-14
			1-24	1-24
			1-30, 31; 2-1	2-1
54	Putnam	2		11-5
			Retakes	12-17

Regular FPMS

District Number	District Name	Total # of Assessments	Training Dates	Assessment Dates
55	St. Johns	0		
56	St. Lucie	0		
57	Santa Rosa	4	11-1	11-6
				11-13,
				11-14
			1-10, 12, 14	2-14
58	Sarasota	5	11-13, 14	11-16,
				11-28,
				11-30
			1-8	1-8
			1-31	1-31
59	Seminole	2	9-17, 19, 21	9-21
			11-12, 13	11-13
60	Sumter	0		
61	Suwannee	0		
62	Taylor	1	October/November	2-5
63	Union	0		
64	Volusia	4	10-22, 26	10-30,
				10-31
			Retakes	12-18
			1-8, 11	1-11
65	Wakulla	1	Retakes	1-3
66	Walton	0		
67	Washington	2	12-5, 6, 7	12-7
			1-24, 25	2-1
Student Services				
10	Clay	1		2-1
42	Marion	1	2-4	2-11
44	Monroe	1	2-7, 8	2-8
Special Institutions/Universities				
Regular FPMS				
	Beth Shalom	2	10-7, 14, 29	10-29,
				1-14
	FL School Deaf/Blind	1	11-29, 30; 12-3	12-3
	FSU	1	11-9, 16, 30	11-30
	Del Shadgett	2		10-3
	Tallahassee	1		10-23
	UCF	1	10-12	10-12
	USF	1	10-18	10-19
	UWF	1	4-9, 11, 16, 18, 23, 25	4-25

*Assessment date was cancelled.

Appendix C

Example of FPMS Feedback to Observer

---------- FEEDBACK ON ACCURACY ----------

COUNTY .....

NAME SS NUMBER

THIS TABLE PRESENTS INFORMATION ON ERRORS IDENTIFIED ON EACH ITEM OF THE OBSERVATION INSTRUMENT.

ERROR MAY OCCUR BY UNDERCODING OR OVERCODING EACH INDICATOR.

FOR EACH INDICATOR ON EACH OBSERVATION, THE NATURE OF YOUR ERROR IS SPECIFIED. THE RESULTS OF EACH ACCURACY ASSESSMENT, IN TERMS OF PASSING OR FAILING, IS INDICATED AT THE BOTTOM OF EACH COLUMN

		OBSERVATION 1 TAPE = 1	OBSERVATION 2 TAPE = 6
	EFFECTIVE INDICATORS		
1.	BEGINS INSTRUCTION PROMPTLY	ACCURATE	OVER CODED
2.	HANDLES MATERIAL ORDERLY	ACCURATE	OVER CODED
3.	ORIENTS STUD./MAINT. FOCUS	OVER CODED	ACCURATE
4.	BEGINNING/ENDING REVIEW	ACCURATE	ACCURATE
5A.	SINGLE FACTUAL QUESTIONS	ACCURATE	UNDER CODED
5B.	REQUIRES ANALYSIS/REASONS	ACCURATE	ACCURATE
6.	REC. RESP./CORRECT FEEDBACK	ACCURATE	ACCURATE
7.	SPECIFIC ACADEMIC PRAISE	ACCURATE	ACCURATE
8.	PROVIDE FOR PRACTICE	OVER CODED	OVER CODED
9.	HW/STWORK ASSIGN/GIVES DIR	ACCURATE	OVER CODED
10.	CIRCUL. & ASSISTS STUDENTS	ACCURATE	ACCURATE
11.	CONCEPT TREATMENT	ACCURATE	OVER CODED
12.	DISCUSS CAUSE-EFFECT	ACCURATE	OVER CODED
13.	STATE/APPLY ACADEMIC RULE	ACCURATE	ACCURATE
14.	CRIT/EVID FOR VALUE JUDGE	ACCURATE	OVER CODED
15.	EMPHASIZE IMPORTANT POINTS	OVER CODED	ACCURATE
16.	EXPRESS ENTHUS./CHALLANGE	ACCURATE	ACCURATE
19.	BODY BEHAV. SHOWS INTEREST	UNDER CODED	UNDER CODED
20.	STOPS MISCONDUCT	UNDER CODED	ACCURATE
21.	MAINTAINS INSTRUCT MOMENTUM	ACCURATE	OVER CODED
	INEFFECTIVE INDICATORS		
1.	DELAYS	ACCURATE	UNDER CODED
2.	NOT ORGANIZED/MATERIALS	ACCURATE	OVER CODED
3.	TALK UNRELATED TO TOPIC	OVER CODED	ACCURATE
5A.	MULT QUEST/UNISON RESPONSE	ACCURATE	ACCURATE
5B.	NON-ACADEMIC QUESTIONS	OVER CODED	ACCURATE
6.	IGNORING,SARCASM, DISGUST	ACCURATE	ACCURATE
7.	GENERAL,NONSPECIFIC PRAISE	ACCURATE	ACCURATE
8.	EXTENDS DISCOURSE	ACCURATE	ACCURATE
9.	NO HOMEWORK/FEEDBACK	ACCURATE	ACCURATE
10.	CIRCULATES INADEQUATELY	ACCURATE	ACCURATE
11.	GIVES DEF/EXAMPLES ONLY	ACCURATE	ACCURATE
12.	CAUSE OR EFFECT ONLY	ACCURATE	ACCURATE
13.	DOES NOT ST/APPLY ACAD RULE	ACCURATE	ACCURATE
14.	VALUE JUDGE WITH NO CRIT	ACCURATE	OVER CODED
17.	VAGUE,SCRAMBLED DISCOURSE	ACCURATE	ACCURATE
18.	GRATING/INAUDIBLE TALK	ACCURATE	ACCURATE
19.	DEADPAN/LETHARGIC	ACCURATE	ACCURATE
20.	DELAYS DESIST/PUNITIVE	ACCURATE	UNDER CODED
21.	LOSES MOMENTUM	ACCURATE	ACCURATE
	ACCURACY RESULT	PASS	FAIL

BEST COPY AVAILABLE

Appendix D

FP S Certified Observers - Positions by District - 04/01/85

District	Position				
	Principal	Asst. Principal	Other	Unknown	TOTAL
Unknown	1	2	11	87	101
Alachua	33	24	125	0	182
Baker	7	2	2	0	11
Bay	27	3	47	6	83
Bradford	8	5	20	105	138
Brevard	55	24	209	32	320
Broward	148	176	873	69	1266
Calhoun	4	0	10	4	18
Charlotte	14	13	7	9	43
Citrus	13	8	64	3	88
Clay	20	27	44	0	91
Collier	20	10	48	3	81
Columbia	7	2	52	7	68
Dade	0	1	0	0	1
Desoto	5	3	21	3	32
Dixie	3	0	12	0	15

District	Position				
	Principal	Asst. Principal	Other	Unknown	TOTAL
Duval	141	91	346	27	605
Escambia	66	9	177	0	252
Flagler	3	1	22	0	26
Franklin	3	0	6	0	9
Gadsden	15	2	17	5	39
Gilchrist	0	0	0	5	5
Glades	2	0	0	0	2
Gulf	4	1	3	0	8
Hamilton	6	0	9	1	16
Hardee	6	2	14	0	22
Hendry	10	7	4	1	22
Hernando	11	0	34	18	63
Highlands	10	14	40	6	70
Hillsborough	137	29	135	405	706
Holmes	7	1	4	1	13
Indian River	11	3	13	10	37
Jackson	12	5	38	8	63
Jefferson	0	2	0	4	6
Lafayette	0	0	0	3	3
Lake	32	7	55	14	108
Lee	47	27	56	11	141
Leon	34	42	60	1	137

District	Position				
	Principal	Asst. Principal	Other	Unknown	TOTAL
Levy	8	1	8	0	17
Liberty	3	0	1	1	5
Madison	6	3	8	1	18
Manatee	0	3	35	109	147
Marion	33	30	59	0	122
Martin	10	10	74	9	103
Monroe	14	3	54	2	73
Nassau	12	2	50	2	66
Okaloosa	36	16	113	0	165
Okeechobee	6	6	18	0	30
Orange	81	50	37	328	496
Osceola	13	11	95	4	123
Palm Beach	69	155	368	9	601
Pasco	37	44	129	0	210
Pinellas	55	78	48	128	309
Polk	93	100	109	0	302
Putnam	12	10	27	5	54
St. Johns	15	11	36	0	62
St. Lucie	16	21	95	1	133
Santa Rosa	27	8	101	5	141
Sarasota	32	25	51	0	108
Seminole	1	6	9	224	321
Sumter	0	1	5	33	39

District	Position				
	Principal	Asst. Principal	Other	Unknown	TOTAL
Suwannee	6	7	2	2	17
Taylor	0	1	7	21	29
Union	0	0	0	9	9
Volusia	53	37	153	1	244
Wakulla	0	0	0	11	11
Walton	8	6	22	0	36
Washington	7	4	3	0	14
School Deaf&Blind	2	3	7	0	12
Private	18	5	11	1	35
Special	6	0	64	191	261
TOTAL	1601	1200	4458	1945	9204

Appendix E

Example of FPMS Feedback to Trainer

---------GROUP FEEDBACK ON ACCURACY PERFORMANCE---------

TRAINER
COUNTY ..... DATE=

NUMBER OF ACCURACY APPLICANTS 24

PERCENT OF APPLICANTS PASSING ACCURACY 96

NUMBER OF COGNITIVE APPLICANTS (COUNTY TOTAL).. .

PERCENT PASSING COGNITIVE (COUNTY TOTAL) ..... .

THIS TABLE PRESENTS INFORMATION ON GROUP PERFORMANCE FOR EACH ITEM ON THE OBSERVATION INSTRUMENT. RESPONSES HAVE BEEN CATEGORIZED AS UNDERCODED, ACCURATE, AND OVERCODED.

THE NUMBERS REPORTED ARE THE PERCENT OF APPLICANTS FROM YOUR COUNTY FALLING INTO EACH OF THE CATEGORIES.

		TAPE= 1			TAPE= 6		
		UNDER CODING	ACCURATE CODING	OVER CODING	UNDER CODING	ACCURATE CODING	OV COD
	EFFECTIVE INDICATORS						
1.	BEGINS INSTRUCTION PROMPTLY	0	100	0	0	29	
2.	HANDLES MATERIAL ORDERLY	4	96	0	0	63	
3.	ORIENTS STUD./ MAT. FOCUS	0	8	92	0	100	
4.	BEGINNING / ENDING REVIEW	0	100	0	4	96	
5A.	SINGLE FACTUAL QUESTIONS	0	100	0	25	75	
5B.	REQUIRES ANALYSIS/REASONS	4	96	0	0	100	
6.	REC. RESP./CORRECT FEEDBACK	0	100	0	0	100	
7.	SPECIFIC ACADEMIC PRAISE	63	38	0	8	83	
8.	PROVIDE FOR PRACTICE	33	54	13	0	25	
9.	HW/STWORK ASSIGN/GIVES DIR	83	17	0	4	92	
10.	CIRCUL. & ASSISSTS STUDENTS	0	100	0	0	100	
11.	CONCEPT TREATMENT	83	17	0	38	50	
12.	DISCUSS CAUSE-EFFECT	0	96	4	0	96	
13.	STATE/APPLY ACADEMIC RULE	0	92	8	0	100	
14.	CRIT/EVID FOR VALUE JUDGE	0	96	4	0	83	
15.	EMPHASIZE IMPORTANT POINTS	21	29	50	8	92	
16.	EXPRESS ENTHUS./CHALLANGE	21	79	0	0	25	
19.	BODY BEHAV. SHOWS INTEREST	25	75	0	38	63	
20.	STOPS MISCONDUCT	13	29	58	0	79	
21.	MAINTAINS INSTRUCT MOMENTUM	58	42	0	0	71	
	INEFFECTIVE INDICATORS						
1.	DELAYS	0	100	0	67	33	
2.	NOT ORGANIZED/MATERIALS	0	100	0	0	96	
3.	TALK UNRELATED TO TOPIC	0	58	42	25	75	
5A.	MULT QUEST/UNISON RESPONSE	0	100	0	0	100	
5B.	NON-ACADEMIC QUESTIONS	0	50	50	17	83	
6.	IGNORING,SARCASM, DISGUST	0	92	8	0	79	
7.	GENERAL,NONSPECIFIC PRAISE	8	92	0	21	79	
8.	EXTENDS DISCOURSE	0	100	0	0	88	
9.	NO HOMEWORK/FEEDBACK	0	100	0	0	83	
10.	CIRCULATES INADEQUATELY..	0	100	0	0	100	
11.	GIVES DEF/EXAMPLES ONLY	0	100	0	0	100	
12.	CAUSE OR EFFECT ONLY	0	100	0	0	100	
13.	DOES NOT ST/APPLY ACAD RULE	0	100	0	0	100	
14.	VALUE JUDGE WITH NO CRIT	0	96	4	0	83	
17.	VAGUE,SCRAMBLED DISCOURSE	0	100	0	75	25	
18.	GRATING/INAUDIBLE TALK	0	100	0	0	100	
19.	DEADPAN/LETHARGIC	0	100	0	0	100	
20.	DELAYS DESIST/PUNITIVE	0	96	4	83	17	
21.	LOSES MOMENTUM	0	96	4	71	29	

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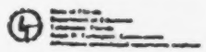
SUMMATIVE OBSERVATION INSTRUMENT

Florida Performance Measurement System
Coalition for the Development of a Performance Evaluation System
Office of Teacher Education, Certification and Inservice Staff Development
Tallahassee, Florida



Appendix F

Example of Form for Certification

Directions for completing observer certification information on the right-hand side of the form:

1. Print your name.
2. Fill in your Social Security #.
3. Print the # and the name of the county where you are employed.
4. Print the tape # and the tape name (Teacher's name) given by the test monitor.
5. Print the trainer # and name of the primary person from whom you received this training.
6. Print the trainer's # and name of the secondary trainer if there was more than one person conducting this training.
7. Print the monitor's # and name.
8. Print training date or dates.
9. Print assessment test date.
10. Print the number for your category of employment:
    Principal - 01; Assistant Principal - 02; Teacher - 03; Other - 04
11. Print the number for your level of employment:
    Elementary - 01; Secondary - 02
12. If you are a Teacher indicate subject area taught.

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Observer Certification Form
Required Identifying Information

1. OBSERVER'S NAME: _____
   (last first)
2. OBSERVER'S SS#: _ _ _ - _ _ - _ _ _ _
3. COUNTY #: _____ COUNTY NAME: _____
4. TAPE #: _____ TAPE NAME: _____
5. PRIMARY TRAINER'S #: _____ NAME:
   _____
6. SECONDARY TRAINER'S #: _____ NAME:
   _____
7. MONITOR'S #: _____ MONITOR'S NAME:
   _____
8. TRAINING DATE/S: _____
9. TEST DATE/S: _____
10. Cat. of Employment _____ 11. Level of Employment _____
12. Subject Area _____

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SUMMATIVE OBSERVATION INSTRUMENT

DOMAIN			Freq		Freq	
3.0 INSTRUCTIONAL ORGANIZATION AND DEVELOPMENT	1. Begins instruction promptly					Delays
	2. Handles materials in an orderly manner					Does not organize or handle materials systematically
	3. Orients students to classwork/maintains academic focus					Allows talk/activity unrelated to subject
	4. Conducts beginning /ending review					
	5. Questions: academic comprehension/ lesson development	single factual (Dom. 5.0)				Poses multiple questions asked as one, unison response
		requires analysis/reasons				Poses non-academic questions/non-academic procedural questions
	6. Recognizes response/amplifies/gives corrective feedback					Ignores student or response/expresses sarcasm, disgust, harshness
	7. Gives specific academic praise					Uses general, non-specific praise
	8. Provides for practice					Extends discourse, changes topic with no practice
	9. Gives directions/assigns/checks comprehension of homework, seatwork assignment/gives feedback					Gives inadequate directions/no homework/no feedback
	10. Circulates and assists students					Remains at desk/circulates inadequately
4.0 PRESENTATION OF SUBJECT MATTER	11. Treats concept — definition/attributes/examples/non-examples					Gives definition or examples only
	12. Discusses cause-effect/uses linking words/applies law or principle					Discusses either cause or effect only/uses no linking word(s)
	13. States and applies academic rule					Does not state or does not apply academic rule
	14. Develops criteria and evidence for value judgment					States value judgment with no criteria or evidence
5.0 COMMUNICATION: VERBAL AND NONVERBAL	15. Emphasizes important points					
	16. Expresses enthusiasm verbally/challenges students					
	17.					Uses vague/scrambled discourse
	18.					Uses loud-grating, high pitched, monotone, inaudible talk
	19. Uses body behavior that shows interest — smiles, gestures					Frowns, deadpan or lethargic
2.0 MGT. OF STD. CONDUCT	20. Stops misconduct					Delays desist/doesn't stop misconduct/desists punitively
	21. Maintains instructional momentum					Loses momentum — fragments non-academic directions, overdwells

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Appendix G

Procedures for Processing Master Teacher Program Observation

Instruments

1. Receive observation instruments from districts, and begin processing. Daily turnaround -- hire temporaty OPS personnel when traffic is too heavy for regular staff.

   a) Separate instruments into 4 groups: (1) FPMS (regular, student services and library/media), (2) student services special, (3) library/media special, and (4) TADS. Stamp date received on each instrument.

   b) Check each instrument for complete information.

      i) If instrument does not meet required specifications, complete the appropriate (FPMS, Student Services, Library/Media or TADS) instrument checklist, indicating miscoded or omitted information. Attach checklist to instrument and place in a group to be returned to the principal (via the district representative) for corrections. Copy the front page of each instrument and file. Hold instruments until step E (below) is completed.

      ii) If instrument meets required specifications, place in a group and separate instruments into groups of 50 (50 instruments = 1 batch). Number of instruments 1 through

50. This allows verification of the number of instruments in a batch while entering data.

c) Assign number to each batch, marking number on Accurate Key Punch (AKP) packaging envelope. Batch numbers consist of a 9 digit number. The first 6 digits represent the date received, and the next 2 digits represent the number of batches processed that day. The last digit (9) represents the type of instrument, in which 1 = FPMS, 2 = Student Services, 3 = Library/Media, 4 = TADS. Batch numbers will also serve as identification number for referring to specific observation instruments.

d) Enter the following information into the computer files:

i) Teacher Last Name

ii) Teacher First Initial

iii) District Number

iv) School Number

v) Teacher Social Security Number

vi) Batch Number

(Note: If instrument needs to be returned to principal for corrections, enter as much of the information as possible, in a separate computer file.)

e) Generate notification of receipt cards, by school, and mail to district representatives. Also, mail observations which are being returned for corrections to principals (via the district representative).

i) Accepted for processing

ii) Returned for corrections

f) Enter the following information into the batch log:

Accepted for Processing

i) Batch number

ii) Date of notification of receipt sent to district

iii) Date instrument sent to AKP

iv) Date instrument returned from AKP

Returned for Corrections

v) Batch Number

vi) Date notification of receipt sent to district

vii) Date instrument returned to principal (via the district representative) for corrections

g) After entering one complete batch of instrument information into the record file, place instruments into an AKP envelop, and log in the appropriate (FPMS, Student Services, Library/Media, or TADS) AKP verification sheet.

h) AKP receives the instruments. Pre-arrange data pick-up day and time with AKP. Adjust if necessary.

2. AKP Data Entry Format.

3. Receive data tape and instruments from AKP. If batch does not return to TEAC office within 7 days, begin search.

a) Verify number of batches returned from AKP.

b) Enter date data received from AKP in batch log.

c) File observations by batch number.

d) Complete University Computing Services form, attach to AKP data tape and deliver externally labeled tape to Student Services Center (SVC).

e) Transfer AKP data to system tapes, receive SKP data tape from SVC, and store tape for re-use. Internally retain permanent TEAC storage tapes -- update weekly.

f) Verify that the number of records on tape corresponds to the number of records submitted.

g) Merge certified observer file with AKP file. Generate a list of uncertified observers (observers listed on AKP file, but not listed on certified observer list). Notify district representatives of uncertified observers.

h) Create merged and non-merged files (two or one observation) for each applicant group.

i) Verify applicant qualifications. TEAC merges DOE applicant file (to be received after February 15, 1985) with the TEAC's applicant file. Generate a list of MTP applicants who have been observed, but have not filed an application with the DOE. Notify district representative of unqualified applicants.

4. Data Analysis (TABS not included)

a) Data Analysis - All PPNS instruments - items will be standardized for length of observation and scaled according to the quartile-based system (Reference: Nursing Study). New quartile scale points will be developed based on the Master Teacher observation data. Individual items receive a scale score of 0, 1, or 2 (ineffective indicators receive only 0 or 1) based on the number of behaviors recorded on that item, by comparing the number of tallies with the quartile points determined from the item distributions.

TABLE 6

Conversion of Scale Scores

Distribution Percentile (P)		Scale Points	
Effective	Ineffective	Effective*	Ineffective
1P - 24P	1P - 49P	0	1
25P - 74P	50P - 99P	1	0
75P - 99P		2	

*Scale points of 0, 1, or 2 apply except for item #1 (Begins Promptly) which may only occur once. Thus, scale points for item #1 are 0 or 1.

These item scale points are summed over all items on the instrument yielding a total instrument score. The corrections for elementary versus secondary and lesson formats in secondary classrooms will be incorporated in this procedure. The scaled scores for the two observations will be averaged to produce the single performance score. Separate distributions of performance scores will be developed for student services, library/media, instructional personnel. These distributions will serve for determining percentile rank.

b) Data Analysis - ITMS and Special Instruments for Library/Media and Student Services - Items on each instrument will be scaled according to the quartile-based system (Norming Study). Distributions on each item will be developed. Library/Media and Student Services ITMS observation instruments will be analyzed separately. Item distributions will be examined separately for these groups and quartile scale points will be

specific to these distributions. The 25th and 75th percentile of each of these distributions (FPMS and special instrument items) will serve as the point of scale point demarcation. Once item scale points are determined, a scale score are summed to produce a total instrument score. Total scale scores are averaged across the two observations conducted with each instrument will be developed for determined of percentile rank. Conversion of scale scores on special instruments to scale scores on the FPMS summative observation instrument will be accomplished by percentile transformation. For example, a student services observation instrument score of 47 is the 78th percentile of the distribution of scores on this instrument. This percentile score will be converted to an FPMS summative observation instrument equivalent score by determining which FPMS score represents the 78th percentile of the distribution of FPMS scores from observations of the student services group. Average the percentile score from FPMS and special instrument observations, using equal weights for the FPMS summative and the special instruments for library/media and the weighted percentage specified by student services applicants on their special instrument. (Note: If the separate distributions for library/media, student services and FPMS summative instruments are very similar as indicated by estimates of the second and third moments, standard deviations and skewness, the standardizing transformation will be conducted using Z scores or T scores.

c) Merge library/media and student services distribution with the master distribution of Master Teacher Program applicants.

d) Print percentile distributions.

e) Print list of candidates alphabetically by percentile, by district.

f) Run feedback program for all candidates.

g) Send district representative sealed notification of each candidate's percentile score and feedback results, marked confidential. Send a master list of the percentile scores to DOE. Retain a copy of the master list in the assessment center.

5. Appeal Process

a) Receive third observations from principals.

b) Process instruments following above procedures A and B.

c) Verify eligibility for third observation against active 50th and above percentile group.

d) Recompute individual percentile scores and compare to established 75th percentile rankings using the following procedures:

i) If one of the three observations, or sets of observations, is discrepant by at least 2 standard deviations (SD), it is disregarded and other two are averaged.

ii) If none is discrepant by at least 2 SD, the average of the three is taken.

iii) If all three differ from each other by at least 2 SD, the middle score is used.

e) Send district representative sealed reevaluation percentile score and feedback results. Send a master list of the percentile scores to the DOE. Retain a copy of the master list in the assessment center.

Appendix H

Distribution Descriptions by Instruments Used in the MTP

LIBRARY MEDIA ALONE ROUNDED T-SCORES
18:25 MONDAY, APRIL 22, 1985

UNIVARIATE

VARIABLE=LMRNDT ROUNDED T-SCORE

MOMENTS

N	347	SUM WGTS	347
MEAN	50.0002	SUM	17350.1
STD DEV	10.0004	VARIANCE	100.007
SKEWNESS	-1.21696	KURTOSIS	0.907073
USS	902108	CSS	34602.5
CV	20.0006	STD MEAN	0.536847
T:MEAN=0	93.1367	PROB>|T|	0.0001
SGN RANK	30189	PROB>|S|	0.0001
NUM ^= 0	347		

QUANTILES(DEF=4)

100% MAX	60.41	99%	60.41
75% Q3	57.39	95%	60.41
50% MED	53.38	90%	60.41
25% Q1	44.33	10%	35.29
0% MIN	17.21	5%	28.26
		1%	18.21
RANGE	43.2		
Q3-Q1	13.06		
MODE	60.41		

EXTREMES

LOWEST	HIGHEST
17.21	60.41
17.21	60.41
18.21	60.41
18.21	60.41
21.23	60.41

STEM	LEAF	#	BOXPLOT
60	44444444444444444444444444444444444444444444	44	|
58	44444444444444444444444444444444444	36	|
56	44444444444444444444444444444444444444444444	43	+-----+
54	44444444444444444444444444444444444444444444	42	| |
52	444444444444444444444444444	27	*-----*
50	444444444444444444444444444	28	| + |
48	333333333244444444	19	| |
46	3333333333333	13	| |
44	333333333333333333	17	+-----+
42	3333333333	10	|
40	33333333333333	13	|
38	333333333	9	|
36	333333333	9	|
34	33333333	8	|
32	3333	4	|
30	33	2	|
28	3333333	7	|
26	3333	4	|
24	2333	4	0
22	222	3	0
20	2	1	0
18	22	2	0
16	22	2	0

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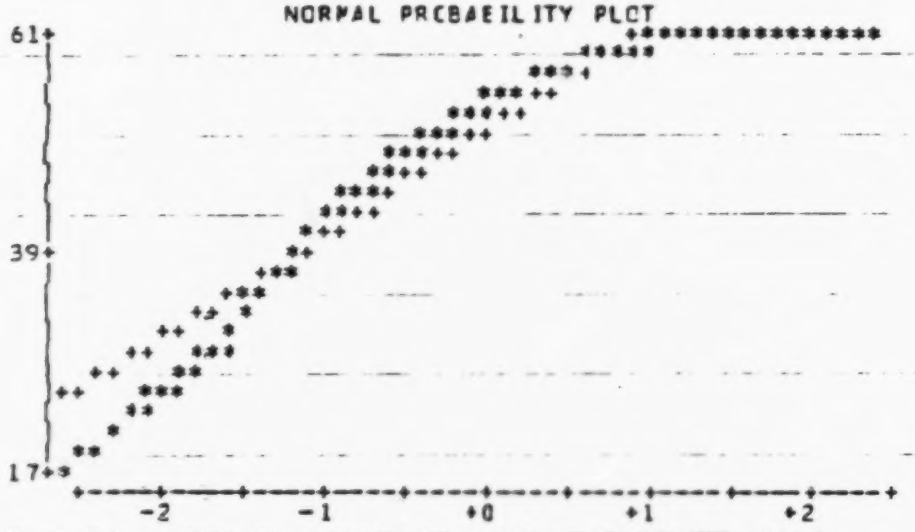
LIBRARY MEDIA ALONE ROUNDED T-SCORES
18:25 MONDAY, APRIL 22, 1985

UNIVARIATE

VARIABLE=LMRNDT ROUNDED T-SCORE

NORMAL PROBABILITY PLOT



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LIBRARY MEDIA ALONE ROUNDED T-SCORES
18:25 MONDAY, APRIL 22, 1985

ROUNDED T-SCORE

LMRNDT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
17.21	2	2	0.576	0.576
18.21	2	4	0.576	1.153
21.23	1	5	0.288	1.441
22.23	3	8	0.865	2.305
24.24	1	9	0.288	2.594
25.25	3	12	0.865	3.458
26.25	1	13	0.288	3.746
27.26	3	16	0.865	4.611
28.26	3	19	0.865	5.476
29.26	4	23	1.153	6.628
31.27	2	25	0.576	7.205
32.28	3	28	0.865	8.069
33.28	1	29	0.288	8.357
34.29	4	33	1.153	9.510
35.29	4	37	1.153	10.663
36.3	5	42	1.441	12.104
37.3	4	46	1.153	13.256
38.31	2	48	0.576	13.833
39.31	7	55	2.017	15.850
40.32	5	60	1.441	17.291
41.32	8	68	2.305	19.597
42.32	6	74	1.729	21.326
43.33	4	78	1.153	22.478
44.33	10	88	2.882	25.360
45.34	7	95	2.017	27.378
46.34	8	103	2.305	29.683
47.35	5	108	1.441	31.124
48.35	10	118	2.882	34.006
49.36	9	127	2.594	36.599
50.36	18	145	5.187	41.787
51.37	10	155	2.882	44.669
52.37	11	166	3.170	47.839
53.38	16	182	4.611	52.450
54.38	22	204	6.340	58.790
55.39	20	224	5.764	64.553
56.39	26	250	7.493	72.046
57.39	17	267	4.899	76.945
58.4	20	287	5.764	82.709
59.4	16	303	4.611	87.320
60.41	44	347	12.680	100.000

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STUDENT SERVICES ALONE ROUNDED T-SCORES
18:25 MONDAY, APRIL 22, 1985

UNIVARIATE

VARIABLE=SSRNDT ROUNDED T-SCORE

MOMENTS

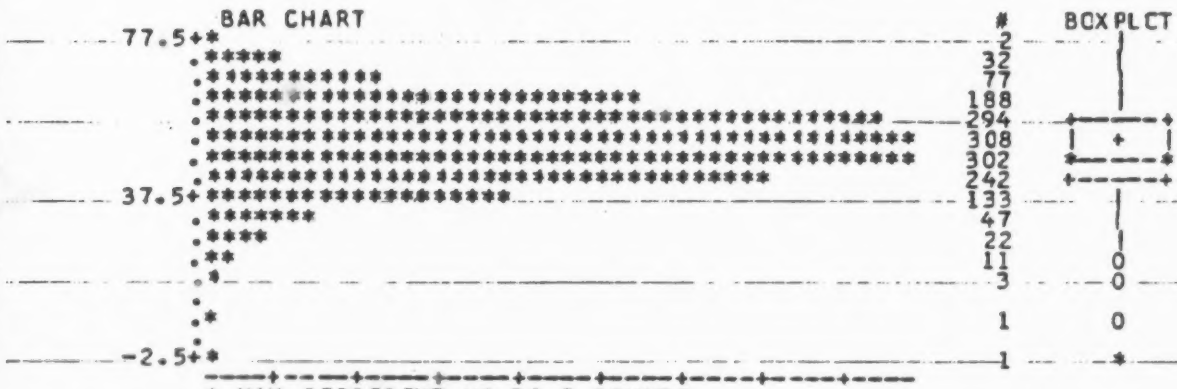
N	1663	SUM WGTS	1663
MEAN	50.0003	SUM	83150.5
STD DEV	9.99583	VARIANCE	99.9967
SKEWNESS	-0.272616	KURTOSIS	0.411234
USS	4323745	CSS	166195
CV	19.9995	STD MEAN	0.245215
T:MEAN=0	203.904	PROB>|T|	0.0001
SGN RANK	691807	PROB>|S|	0.0001
NUM ^= 0	1663		

QUANTILES(DEF=4)

100% MAX	75.11	99%	71.31
75% Q3	57.35	95%	66.23
50% MED	49.73	90%	62.42
25% Q1	42.39	10%	37.04
0% MIN	-4.83	5%	33.24
		1%	25.1628
RANGE	79.94		
Q3-Q1	13.96		
MODE	57.35		

EXTREMES

LOWEST	HIGHEST
-4.83	73.84
7.86	73.84
15.47	73.84
16.74	75.11
16.74	75.11



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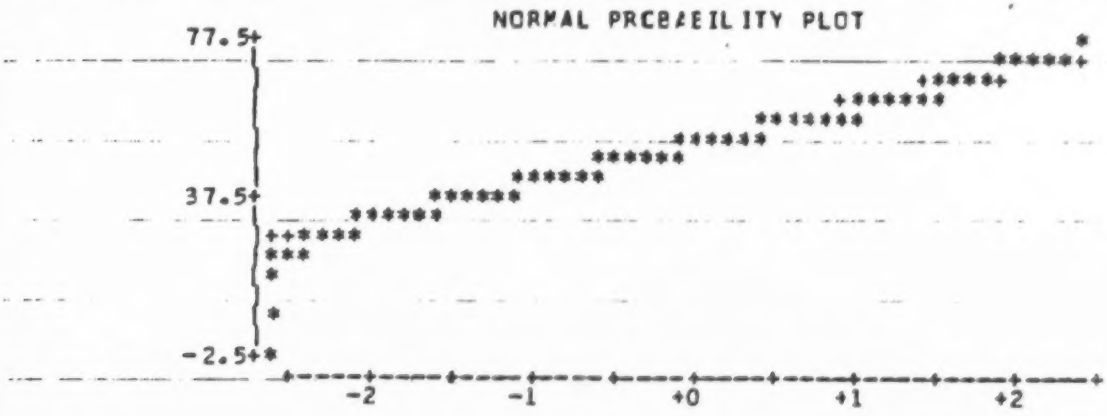
STUDENT SERVICES ALONE ROUNDED T-SCORES
18:25 MONDAY, APRIL 22, 1985

UNIVARIATE

VARIABLE=SSRNDT ROUNDED T-SCORE

NORMAL PROBABILITY PLOT



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STUDENT SERVICES ALONE ROUNDED T-SCORES
18:25 MONDAY, APRIL 22, 1985

ROUNDED T-SCORE

SSRNDT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
-4.83	1	1	0.060	0.060
7.86	1	2	0.060	0.120
15.47	1	3	0.060	0.180
16.74	2	5	0.120	0.301
20.55	2	7	0.120	0.421
21.82	1	8	0.060	0.481
23.08	5	13	0.301	0.782
24.35	3	16	0.180	0.962
25.62	3	19	0.180	1.143
26.89	3	22	0.180	1.323
28.16	3	25	0.180	1.503
29.43	9	38	0.541	2.285
30.7	13	51	0.782	3.067
31.97	19	70	1.143	4.209
33.24	15	85	0.902	5.111
34.51	22	107	1.323	6.434
35.77	35	142	2.105	8.539
37.04	34	176	2.044	10.583
38.31	42	218	2.526	13.109
39.58	51	269	3.067	16.176
40.85	55	324	3.307	19.483
42.12	69	393	4.149	23.632
43.39	67	460	4.029	27.661
44.66	82	542	4.931	32.592
45.93	80	622	4.811	37.402
47.2	72	694	4.330	41.732
48.46	68	762	4.089	45.821
49.73	74	836	4.450	50.271
51	80	916	4.811	55.081
52.27	78	994	4.690	59.771
53.54	76	1070	4.570	64.342
54.81	70	1140	4.209	68.551
56.08	71	1211	4.269	72.820
57.35	88	1299	5.292	78.112
58.62	65	1364	3.909	82.020
59.88	56	1420	3.367	85.388
61.15	46	1466	2.766	88.154
62.42	47	1513	2.826	90.980
63.69	35	1548	2.105	93.085
64.96	25	1573	1.503	94.588
66.23	15	1588	0.902	95.491
67.5	13	1601	0.782	96.273
68.77	20	1621	1.203	97.476
70.04	16	1637	0.962	98.438
71.31	6	1643	0.361	98.798
72.57	3	1646	0.180	98.978
73.84	7	1653	0.421	99.399
75.11	2	1655	0.120	99.519

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UNIVARIATE

VARIABLE=TARNDT ROUNDED T-SCORE

MOMENTS

N	3198	SUM WGTS	3198
MEAN	50.0048	SUM	159915
STD DEV	9.99921	VARIANCE	99.9843
SKEWNESS	-1.36057	KURTOSIS	1.92432
USS	8316189	CSS	319650
CV	19.9965	STD MEAN	0.176818
T:MEAN=0	282.804	PROB>|T|	0.0001
SGN RANK	2557601	PROB>|S|	0.0001
NUM ^= 0	3198		

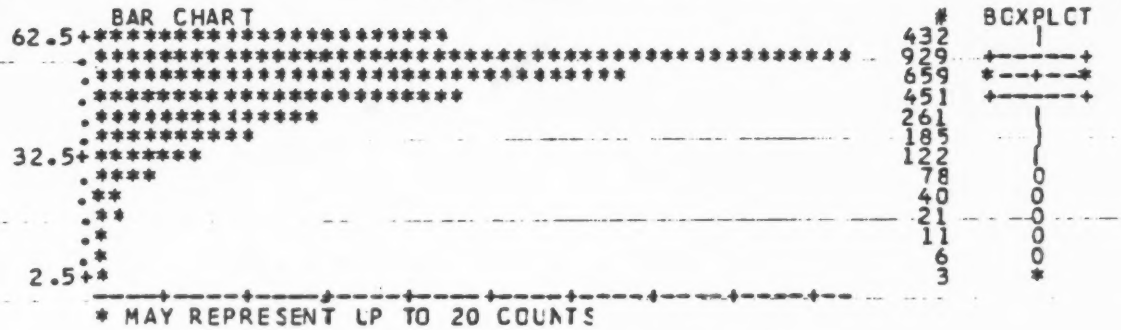
QUANTILES(DEF=4)

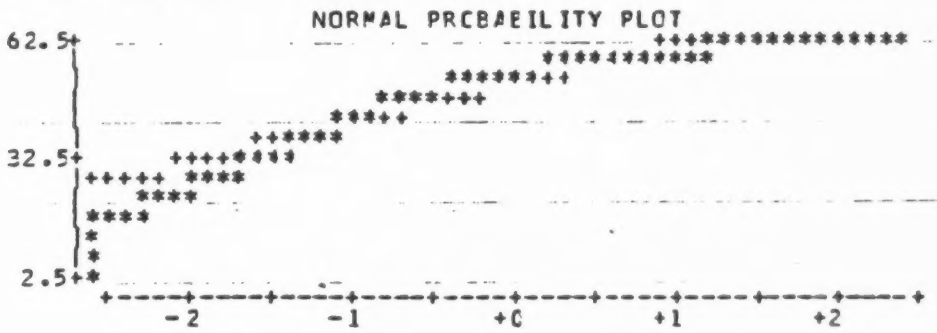
100% MAX	61.26	99%	61.26
75% Q3	57.71	95%	61.26
50% MED	52.63	90%	60.24
25% Q1	45.01	10%	35.87
0% MIN	2.87	5%	29.7545
		1%	17.6
RANGE	58.39		
Q3-Q1	12.7		
MODE	61.26		

EXTREMES

LOWEST	HIGHEST
2.87	61.26
2.87	61.26
3.89	61.26
6.43	61.26
8.46	61.26

MISSING VALUE .
COUNT 1
% COUNT/NOBS 0.03





BEST COPY AVAILABLE

ROUNDED T-SCORE TARNDT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	1			
2.87	2	3	0.063	0.063
3.89	1	4	0.031	0.094
6.43	1	7	0.031	0.125
8.46	3	9	0.094	0.219
8.97	2	10	0.063	0.281
9.98	1	12	0.031	0.313
10.49	2	16	0.063	0.375
11.5	4	18	0.125	0.500
12.01	2	19	0.063	0.563
12.52	1	20	0.031	0.594
14.04	1	23	0.031	0.625
15.06	3	25	0.094	0.719
15.57	2	26	0.063	0.782
16.07	1	29	0.031	0.813
16.58	3	30	0.094	0.907
17.09	1	32	0.031	0.938
17.6	2	37	0.063	1.001
18.1	5	39	0.156	1.157
18.61	2	41	0.063	1.220
19.12	2	47	0.063	1.282
19.63	6	49	0.188	1.470
20.13	2	56	0.063	1.532
20.64	7	62	0.219	1.751
21.15	6	66	0.188	1.939
21.66	4	69	0.125	2.064
22.17	3	71	0.094	2.158
22.67	2	75	0.063	2.220
23.18	4	78	0.125	2.345
23.69	3	81	0.094	2.439
24.2	3	89	0.094	2.533
24.7	8	96	0.250	2.783
25.21	7	107	0.219	3.002
25.72	11	112	0.344	3.346
26.23	5	117	0.156	3.502
26.74	5	123	0.156	3.659
27.24	6	132	0.188	3.846
27.75	9	136	0.281	4.128
28.26	4	144	0.125	4.253
28.77	8	159	0.250	4.503
29.27	15	168	0.469	4.972
29.78	9	182	0.281	5.253
30.29	14	193	0.438	5.691
30.8	11	205	0.344	6.035
31.3	12	215	0.375	6.410
31.81	10	226	0.313	6.723
32.32	11	241	0.344	7.067
32.83	15	249	0.469	7.536
33.34	8	264	0.250	7.786
33.84	15	281	0.469	8.255
34.35	17	292	0.532	8.787
34.86	11	308	0.344	9.131
35.37	16	326	0.500	9.631
35.87	18	349	0.563	10.194
36.38	23	365	0.719	10.913
36.89	16	384	0.500	11.413
37.4	19	400	0.594	12.008
37.9	16	420	0.500	12.508
38.41	20	443	0.625	13.133
38.92	23	466	0.719	13.852
39.43	23	492	0.719	14.572
39.94	26	518	0.813	15.385
40.44	27	540	0.844	16.229
40.95	21	560	0.657	16.886
41.46	20	587	0.625	17.511
41.97	27	623	0.844	18.355
42.47	36	661	1.126	19.481
42.98	38	691	1.188	20.669
43.49	30	727	0.938	21.607
44	36	772	1.126	22.733
44.51	45	812	1.407	24.140
45.01	40	853	1.251	25.391
45.52	41		1.282	26.673

BEST COPY AVAILABLE

TADS ALONE ROUNDED T-SCORES
18:25 MONDAY, APRIL 22, 1985

ROUNDED T-SCORE

TARNOT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
46.03	37	890	1.157	27.830
46.54	45	935	1.407	29.237
47.04	46	981	1.438	30.675
47.55	48	1029	1.501	32.176
48.06	46	1075	1.438	33.615
48.57	50	1125	1.563	35.178
49.07	53	1178	1.657	36.836
49.58	47	1225	1.470	38.305
50.09	60	1285	1.876	40.181
50.6	58	1343	1.814	41.995
51.11	53	1396	1.657	43.652
51.61	59	1455	1.845	45.497
52.12	78	1533	2.439	47.936
52.63	91	1624	2.846	50.782
53.14	73	1697	2.283	53.064
53.64	76	1773	2.376	55.441
54.15	64	1837	2.001	57.442
54.66	95	1932	2.971	60.413
55.17	98	2030	3.064	63.477
55.67	98	2128	3.064	66.542
56.18	91	2219	2.846	69.387
56.69	77	2296	2.408	71.795
57.2	97	2393	3.033	74.828
57.71	95	2488	2.971	77.799
58.21	74	2562	2.314	80.113
58.72	110	2672	3.440	83.552
59.23	94	2766	2.939	86.492
59.74	99	2865	3.096	89.587
60.24	72	2937	2.251	91.839
60.75	96	3033	3.002	94.841
61.26	165	3198	5.159	100.000

BEST COPY AVAILABLE

MOMENTS

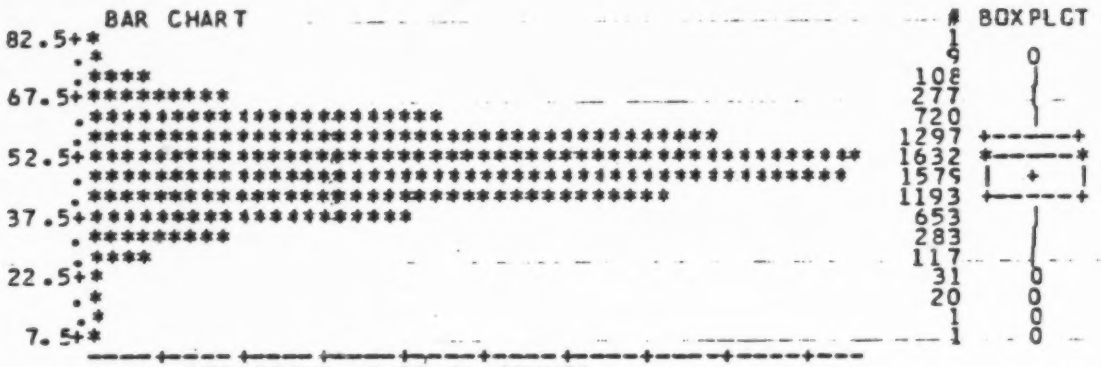
N	7922	SUM WGTS	7922
MEAN	49.6133	SUM	393036
STD DEV	9.53114	VARIANCE	90.8427
SKEWNESS	-0.203496	KURTOSIS	-0.0556373
USS	20215396	CSS	719565
CV	19.2109	STD MEAN	0.107085
T:MEAN=0	463.309	PROB>|T|	0.0001
SGN RANK	15691502	PROB>|S|	0.0001
NUM ^= 0	7922		

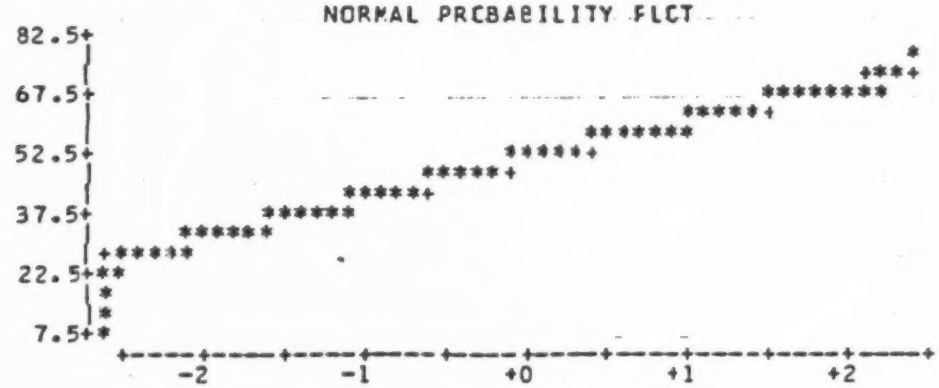
QUANTILES(DEF=4)

100% MAX	79.79	99%	70.44
75% Q3	55.99	95%	64.45
50% MED	50.04	90%	61.94
25% Q1	43.24	10%	37.29
0% MIN	8.39	5%	33.89
		1%	25.39
RANGE	71.4		
Q3-Q1	12.75		
MODE	51.74		

EXTREMES

LOWEST	HIGHEST
8.39	78.09
12.64	78.09
15.19	78.94
16.04	78.94
16.89	79.79





BEST COPY AVAILABLE

MIDPNT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
12.64	1	2	0.013	0.025
15.19	1	3	0.013	0.038
16.04	1	4	0.013	0.050
16.89	5	9	0.063	0.114
17.74	4	13	0.050	0.164
18.59	3	16	0.038	0.202
19.35	1	17	0.013	0.215
19.44	5	22	0.063	0.278
20.29	5	27	0.063	0.341
21.14	3	30	0.038	0.379
21.99	3	33	0.038	0.417
22.84	10	43	0.126	0.543
23.69	10	53	0.126	0.669
24.54	16	69	0.202	0.871
25.39	14	83	0.177	1.048
26.15	1	84	0.013	1.060
26.24	12	96	0.151	1.212
27	1	97	0.013	1.224
27.09	19	116	0.240	1.464
27.26	2	118	0.025	1.490
27.94	20	138	0.252	1.742
28.11	1	139	0.013	1.755
28.79	28	167	0.353	2.108
28.89	1	168	0.013	2.121
28.96	1	169	0.013	2.133
29.45	1	170	0.013	2.146
29.64	22	192	0.278	2.424
30.4	1	193	0.013	2.436
30.49	49	242	0.619	3.055
30.54	1	243	0.013	3.067
30.66	1	244	0.013	3.080
31.34	36	280	0.454	3.534
31.39	1	281	0.013	3.547
31.48	1	282	0.013	3.560
31.51	2	284	0.025	3.585
32.1	1	285	0.013	3.598
32.19	40	325	0.505	4.102
32.36	2	327	0.025	4.128
32.95	1	328	0.013	4.140
33.04	54	382	0.682	4.822
33.09	1	383	0.013	4.835
33.8	3	386	0.038	4.873
33.89	62	448	0.783	5.655
33.94	1	449	0.013	5.668
34.06	4	453	0.050	5.718
34.74	69	522	0.871	6.589
34.79	1	523	0.013	6.602
35.5	2	525	0.025	6.627
35.59	75	600	0.947	7.574
35.64	1	601	0.013	7.586
35.76	1	602	0.013	7.599
36.25	1	603	0.013	7.612
36.44	98	701	1.237	8.849
36.49	1	702	0.013	8.861
37.1	1	703	0.013	8.874
37.2	2	705	0.025	8.899
37.29	129	834	1.628	10.528
37.34	2	836	0.025	10.553
37.46	3	839	0.038	10.591
37.51	1	840	0.013	10.603
37.53	2	842	0.025	10.629
38.04	1	843	0.013	10.641
38.14	131	974	1.654	12.295
38.31	3	977	0.038	12.333
38.8	2	979	0.025	12.358
38.89	2	981	0.025	12.383
38.99	121	1102	1.527	13.911
39.04	1	1103	0.013	13.923
39.16	3	1106	0.038	13.961
39.74	5	1111	0.063	14.024
39.84	168	1279	2.121	16.145

BEST COPY AVAILABLE

ROUNDED T-SCORE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
40.01	5	1285	0.063	16.221
40.59	3	1288	0.038	16.259
40.69	192	1480	2.424	18.682
40.74	2	1482	0.025	18.707
40.86	1	1483	0.013	18.720
41.35	2	1485	0.025	18.745
41.44	1	1486	0.013	18.758
41.49	1	1487	0.013	18.771
41.54	164	1651	2.070	20.841
41.71	1	1652	0.013	20.853
41.88	1	1653	0.013	20.866
42.2	1	1654	0.013	20.879
42.29	2	1656	0.025	20.904
42.39	209	1865	2.638	23.542
42.44	1	1866	0.013	23.555
42.56	5	1871	0.063	23.618
43.14	6	1877	0.076	23.694
43.24	203	2080	2.562	26.256
43.29	1	2081	0.013	26.269
43.31	1	2082	0.013	26.281
43.41	3	2085	0.038	26.319
43.58	1	2086	0.013	26.332
43.9	3	2089	0.038	26.370
44.09	208	2297	2.626	28.995
44.26	2	2299	0.025	29.020
44.84	6	2305	0.076	29.096
44.94	236	2541	2.979	32.075
44.99	1	2542	0.013	32.088
45.11	5	2547	0.063	32.151
45.28	1	2548	0.013	32.164
45.6	1	2549	0.013	32.176
45.69	3	2552	0.038	32.214
45.79	222	2774	2.802	35.016
45.84	1	2775	0.013	35.029
45.96	3	2778	0.038	35.067
46.13	1	2779	0.013	35.080
46.45	1	2780	0.013	35.092
46.54	4	2784	0.050	35.143
46.64	249	3033	3.143	38.286
46.69	3	3036	0.038	38.324
46.81	7	3043	0.088	38.412
47.39	4	3047	0.050	38.463
47.49	273	3320	3.446	41.909
47.56	1	3321	0.013	41.921
47.66	3	3324	0.038	41.959
47.83	1	3325	0.013	41.972
48.15	1	3326	0.013	41.984
48.24	1	3327	0.013	41.997
48.34	268	3595	3.383	45.380
48.39	4	3599	0.050	45.430
48.51	8	3607	0.101	45.531
48.68	2	3609	0.025	45.557
49	1	3610	0.013	45.569
49.09	4	3614	0.050	45.620
49.19	256	3870	3.232	48.851
49.24	1	3871	0.013	48.864
49.36	7	3878	0.088	48.952
49.85	1	3879	0.013	48.965
49.94	3	3882	0.038	49.003
49.99	1	3883	0.013	49.015
50.04	268	4151	3.383	52.398
50.09	2	4153	0.025	52.424
50.21	6	4159	0.076	52.499
50.79	4	4163	0.050	52.550
50.89	248	4411	3.131	55.680
51.06	4	4415	0.050	55.731
51.64	5	4420	0.063	55.794
51.74	289	4709	3.648	59.442
51.79	3	4712	0.038	59.480
51.84	1	4713	0.013	59.493
51.91	5	4718	0.063	59.556
52.49	2	4720	0.025	59.581

BEST COPY AVAILABLE

[illegible] CUNCED T-SCCFES
[illegible] ELEMENTARY 18:25 MONDAY, APRIL 22, 1985

ROUND T-SCORE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
[illegible]	[illegible]	5863	3.220	62.901
[illegible]	[illegible]	5864	0.013	62.913
[illegible]	[illegible]	5865	0.013	62.926
52.76	5	5870	0.063	62.989
53.34	5	5875	0.063	63.052
53.44	256	6131	3.232	66.284
53.49	2	6133	0.025	66.309
53.61	5	6138	0.063	66.372
53.78	2	6140	0.025	66.397
54.1	1	6141	0.013	66.410
54.19	3	6144	0.038	66.448
54.29	240	6384	3.030	69.477
54.34	1	6385	0.013	69.490
54.46	5	6390	0.063	69.553
54.51	1	6391	0.013	69.566
55.04	2	6393	0.025	69.591
55.14	239	6632	3.017	72.608
55.19	2	6634	0.025	72.633
55.31	2	6636	0.025	72.658
55.89	4	6640	0.050	72.709
55.99	204	6844	2.575	75.284
56.16	2	6846	0.025	75.309
56.33	1	6847	0.013	75.322
56.74	1	6848	0.013	75.335
55.79	1	6849	0.013	75.347
56.84	224	7073	2.828	78.175
56.91	1	7074	0.013	78.187
57.01	3	7077	0.038	78.225
57.69	207	7284	2.613	80.838
57.74	1	7285	0.013	80.851
57.86	6	7291	0.076	80.927
58.35	1	7292	0.013	80.939
58.44	1	7293	0.013	80.952
58.54	217	7510	2.739	83.691
58.59	2	7512	0.025	83.716
58.71	1	7513	0.013	83.729
59.2	1	7514	0.013	83.741
59.29	3	7517	0.038	83.779
59.39	170	7687	2.146	85.925
59.56	2	7689	0.025	85.951
60.24	154	7843	1.944	87.894
60.31	1	7844	0.013	87.907
60.41	1	7845	0.013	87.920
60.58	2	7847	0.025	87.945
60.99	3	7850	0.038	87.983
61.09	137	7987	1.729	89.712
61.26	3	7990	0.038	89.750
61.5	1	7991	0.013	89.763
61.84	1	7992	0.013	89.775
61.94	132	8124	1.666	91.442
61.99	2	8126	0.025	91.467
62.04	1	8127	0.013	91.479
62.28	1	8128	0.013	91.492
62.6	1	8129	0.013	91.505
62.69	3	8132	0.038	91.543
62.79	98	8230	1.237	92.780
62.84	2	8232	0.025	92.805
62.96	2	8234	0.025	92.830
63.45	1	8235	0.013	92.843
63.54	2	8237	0.025	92.868
63.64	82	8319	1.035	93.903
63.81	1	8320	0.013	93.916
64.3	1	8321	0.013	93.928
64.39	1	8322	0.013	93.941
64.49	85	8407	1.073	95.014
65.24	1	8408	0.013	95.027
65.34	84	8492	1.060	96.087
65.51	1	8493	0.013	96.099
66.09	1	8494	0.013	96.112
66.19	59	8553	0.745	96.857
67.04	57	8610	0.720	97.576
67.21	1	8611	0.013	97.589
67.89	34	8645	0.429	98.018

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FPMS ALONE ROUNDED T-SCORES
18:25 MONDAY, APRIL 22, 1985
LEVEL=ELEMENTARY

ROUNDED T-SCORE

FPRNDT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
68.23	1	7766	0.013	98.031
68.74	38	7804	0.480	98.510
69.59	24	7828	0.303	98.813
69.64	1	7829	0.013	98.826
69.76	2	7831	0.025	98.851
70.44	25	7856	0.316	99.167
70.78	1	7857	0.013	99.180
71.19	1	7858	0.013	99.192
71.29	17	7875	0.215	99.407
72.04	1	7876	0.013	99.419
72.14	17	7893	0.215	99.634
72.8	1	7894	0.013	99.647
72.99	9	7903	0.114	99.760
73.04	1	7904	0.013	99.773
73.84	8	7912	0.101	99.874
74.69	3	7915	0.038	99.912
76.39	1	7916	0.013	99.924
77.24	1	7917	0.013	99.937
78.09	2	7919	0.025	99.962
78.94	2	7921	0.025	99.987
79.79	1	7922	0.013	100.000

BEST COPY AVAILABLE

FPMS ALONE ROUNDED T-SCORES
18:25 MONDAY, APRIL 22, 1985
LEVEL=SECONDARY

UNIVARIATE

VARIABLE=FPRNDT ROUNDED T-SCORE

MOMENTS

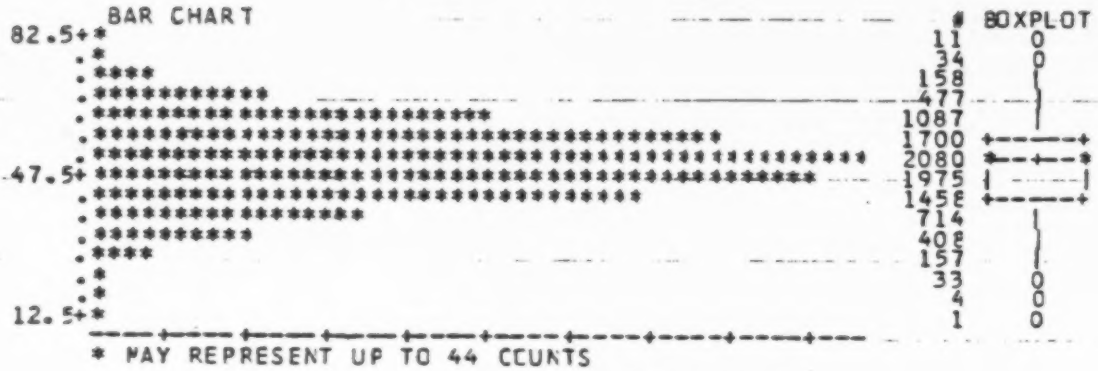
N	10297	SUM WGTS	10297
MEAN	50.1838	SUM	516743
STD DEV	9.64475	VARIANCE	93.0212
SKEWNESS	-0.0518676	KURTOSIS	-0.0775892
USS	26889877	CSS	957747
CV	19.2188	STD MEAN	0.0950464
T:MEAN=0	527.993	PROB>|T|	0.0001
SGN RANK	26506627	PROB>|S|	0.0001
NUM ^= 0	10297		

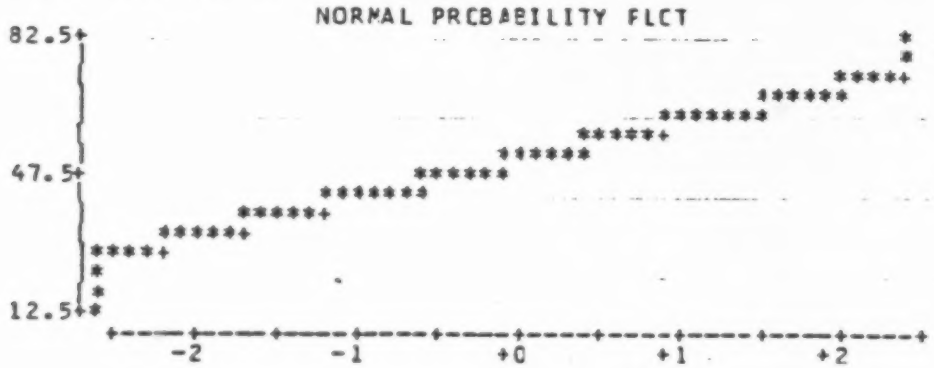
QUANTILES(DEF=4)

100% MAX	82.73	99%	72.57
75% Q3	56.49	95%	65.8
50% MED	50.56	90%	62.41
25% Q1	43.79	10%	37.87
0% MIN	13.32	5%	33.87
		1%	27.66
RANGE	69.41		
Q3-Q1	12.7		
MODE	50.56		

EXTREMES

LOWEST	HIGHEST
13.32	80.58
16.71	81.02
17.55	81.66
19.25	82.73
19.25	82.73





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FPMS ALONE ROUNDED T-SCORES
LEVEL=SECONDARY

18:25 MONDAY, APRIL 22, 1985

ROUNDED T-SCORE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
13.32	1	1	0.010	0.010
16.71	1	2	0.010	0.019
17.55	1	3	0.010	0.029
19.25	2	5	0.019	0.049
20.09	3	8	0.029	0.078
20.94	3	11	0.029	0.107
21.73	2	13	0.019	0.126
21.79	8	21	0.078	0.204
22.63	4	25	0.039	0.243
22.87	1	26	0.010	0.253
23.48	7	33	0.068	0.320
23.72	1	34	0.010	0.330
24.33	4	38	0.039	0.369
25.12	2	40	0.019	0.388
25.17	14	54	0.136	0.524
25.36	1	55	0.010	0.534
25.41	1	56	0.010	0.544
26.02	23	79	0.223	0.767
26.75	1	80	0.010	0.777
26.86	16	96	0.155	0.932
27.34	1	97	0.010	0.942
27.61	1	98	0.010	0.952
27.65	2	100	0.019	0.971
27.66	3	103	0.029	1.000
27.71	20	123	0.194	1.195
27.95	3	126	0.029	1.224
28.51	2	128	0.019	1.243
28.56	25	153	0.243	1.486
28.79	2	155	0.019	1.505
29.34	3	158	0.029	1.534
29.35	5	163	0.049	1.583
29.4	32	195	0.311	1.894
29.64	1	196	0.010	1.903
29.88	1	197	0.010	1.913
30.15	1	198	0.010	1.923
30.19	3	201	0.029	1.952
30.2	2	203	0.019	1.971
30.25	40	243	0.388	2.360
30.49	2	245	0.019	2.379
31.04	3	248	0.029	2.408
31.05	2	250	0.019	2.428
31.1	41	291	0.398	2.826
31.28	1	292	0.010	2.836
31.33	2	294	0.019	2.855
31.82	1	295	0.010	2.865
31.88	2	297	0.019	2.884
31.89	5	302	0.049	2.933
31.94	48	350	0.466	3.399
32.12	1	351	0.010	3.409
32.13	1	352	0.010	3.418
32.18	5	357	0.049	3.467
32.67	1	358	0.010	3.477
32.73	7	365	0.068	3.545
32.74	5	370	0.049	3.593
32.79	58	428	0.563	4.157
33.03	5	433	0.049	4.205
33.26	2	435	0.019	4.225
33.53	1	436	0.010	4.234
33.58	4	440	0.039	4.273
33.59	1	441	0.010	4.283
33.64	66	507	0.641	4.924
33.81	2	509	0.019	4.943
33.82	1	510	0.010	4.953
33.87	7	517	0.068	5.021
34.11	4	521	0.039	5.060
34.36	2	523	0.019	5.079
34.37	3	526	0.029	5.108
34.38	1	527	0.010	5.118
34.42	3	530	0.029	5.147
34.43	5	535	0.049	5.196
34.48	68	603	0.660	5.856
34.72	13	616	0.126	5.982

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FPMS ALONE ROUNDED T-SCORES

LEVEL=SECONDARY 18:25 MONDAY, APRIL 22, 1985

ROUNDED T-SCORE

FPRNDT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
34.96	1	617	0.010	5.992
35.23	1	618	0.010	6.002
35.27	5	623	0.049	6.050
35.28	5	628	0.049	6.099
35.33	73	701	0.709	6.808
35.51	3	704	0.029	6.837
35.57	9	713	0.087	6.924
35.8	1	714	0.010	6.934
36.07	5	719	0.049	6.983
36.12	14	733	0.136	7.119
36.18	106	839	1.029	8.148
36.41	7	846	0.068	8.216
36.65	1	847	0.010	8.226
36.96	8	855	0.078	8.303
36.97	6	861	0.058	8.362
37.02	110	971	1.068	9.430
37.21	1	972	0.010	9.440
37.26	11	983	0.107	9.546
37.5	1	984	0.010	9.556
37.75	2	986	0.019	9.576
37.77	5	991	0.049	9.624
37.81	7	998	0.068	9.692
37.82	7	1005	0.068	9.760
37.87	108	1113	1.049	10.809
38.05	2	1115	0.019	10.828
38.1	8	1123	0.078	10.906
38.34	4	1127	0.039	10.945
38.6	2	1129	0.019	10.964
38.61	6	1135	0.058	11.023
38.62	1	1136	0.010	11.032
38.66	18	1154	0.175	11.207
38.71	134	1288	1.301	12.508
38.89	1	1289	0.010	12.518
38.9	3	1292	0.029	12.547
38.95	13	1305	0.126	12.674
39.46	3	1308	0.029	12.703
39.5	9	1317	0.087	12.790
39.51	4	1321	0.039	12.829
39.56	139	1460	1.350	14.179
39.75	1	1461	0.010	14.189
39.8	15	1476	0.146	14.334
40.03	1	1477	0.010	14.344
40.29	3	1480	0.029	14.373
40.31	7	1487	0.068	14.441
40.35	8	1495	0.078	14.519
40.36	15	1510	0.146	14.664
40.41	174	1684	1.690	16.354
40.58	2	1686	0.019	16.374
40.59	1	1687	0.010	16.383
40.64	20	1707	0.194	16.578
40.88	1	1708	0.010	16.587
41.15	6	1714	0.058	16.646
41.19	9	1723	0.087	16.733
41.2	12	1735	0.117	16.850
41.25	213	1948	2.069	18.918
41.43	1	1949	0.010	18.928
41.44	3	1952	0.029	18.957
41.49	13	1965	0.126	19.083
41.73	4	1969	0.039	19.122
41.98	1	1970	0.010	19.132
42	6	1976	0.058	19.190
42.04	10	1986	0.097	19.287
42.05	14	2000	0.136	19.423
42.1	187	2187	1.816	21.239
42.28	1	2188	0.010	21.249
42.29	1	2189	0.010	21.259
42.34	15	2204	0.146	21.404
42.57	1	2205	0.010	21.414
42.83	3	2208	0.029	21.443
42.84	9	2217	0.087	21.531
42.89	14	2231	0.136	21.667
42.9	8	2239	0.078	21.744
42.95	234	2473	2.273	24.017

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FPMS ALONE ROUNDED T-SCORES
LEVEL=SECONDARY

18:25 MONDAY, APRIL 22, 1985

ROUNDED T-SCORE

FPRNDT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
43.18	19	2492	0.186	24.201
43.42	2	2494	0.019	24.221
43.68	1	2495	0.010	24.230
43.69	1	2496	0.010	24.240
43.73	10	2506	0.097	24.337
43.74	14	2520	0.136	24.472
43.79	234	2754	2.273	26.746
43.97	3	2757	0.029	26.775
43.98	1	2758	0.010	26.785
44.03	12	2770	0.117	26.901
44.27	5	2775	0.049	26.950
44.52	2	2777	0.019	26.969
44.53	1	2778	0.010	26.979
44.54	2	2780	0.019	26.998
44.58	12	2792	0.117	27.115
44.59	10	2802	0.097	27.212
44.64	248	3050	2.408	29.620
44.83	1	3051	0.010	29.630
44.88	17	3068	0.165	29.795
45.11	2	3070	0.019	29.815
45.37	2	3072	0.019	29.834
45.38	2	3074	0.019	29.853
45.43	19	3093	0.186	30.038
45.49	247	3340	2.399	32.437
45.67	2	3342	0.019	32.456
45.72	18	3360	0.175	32.631
45.96	4	3364	0.039	32.670
46.23	5	3369	0.049	32.718
46.27	11	3380	0.107	32.825
46.28	11	3391	0.107	32.932
46.33	256	3647	2.486	35.418
46.51	1	3648	0.010	35.428
46.52	3	3651	0.029	35.457
46.57	24	3675	0.233	35.690
46.81	7	3682	0.068	35.758
47.08	1	3683	0.010	35.768
47.12	7	3690	0.068	35.836
47.13	9	3699	0.087	35.923
47.18	299	3998	2.904	38.827
47.36	3	4001	0.029	38.856
47.42	26	4027	0.253	39.108
47.65	2	4029	0.019	39.128
47.88	1	4030	0.010	39.138
47.91	4	4034	0.039	39.176
47.92	7	4041	0.068	39.244
47.97	25	4066	0.243	39.487
48.02	284	4350	2.758	42.245
48.26	18	4368	0.175	42.420
48.5	6	4374	0.058	42.478
48.75	4	4378	0.039	42.517
48.77	4	4382	0.039	42.556
48.81	11	4393	0.107	42.663
48.82	16	4409	0.155	42.818
48.87	309	4718	3.001	45.819
49.06	5	4723	0.049	45.868
49.11	25	4748	0.243	46.111
49.34	2	4750	0.019	46.130
49.6	3	4753	0.029	46.159
49.62	6	4759	0.058	46.217
49.66	13	4772	0.126	46.344
49.67	12	4784	0.117	46.460
49.72	304	5088	2.952	49.412
49.9	6	5094	0.058	49.471
49.95	22	5116	0.214	49.684
50.19	3	5119	0.029	49.714
50.46	1	5120	0.010	49.723
50.5	6	5126	0.058	49.781
50.51	16	5142	0.155	49.937
50.56	315	5457	3.059	52.996
50.75	1	5458	0.010	53.006
50.8	14	5472	0.136	53.142
51.04	3	5475	0.029	53.171
51.29	6	5481	0.058	53.229

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FPMS ALONE ROUNDED T-SCORES

LEVEL=SECONDARY 18:25 MONDAY, APRIL 22, 1985

ROUNDED T-SCORE

FPRNDT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
51.31	5	5486	0.049	53.278
51.35	14	5500	0.136	53.414
51.36	13	5513	0.126	53.540
51.41	281	5794	2.729	56.269
51.59	2	5796	0.019	56.288
51.6	2	5798	0.019	56.308
51.65	24	5822	0.233	56.541
51.88	1	5823	0.010	56.550
52.11	1	5824	0.010	56.560
52.14	1	5825	0.010	56.570
52.15	7	5832	0.068	56.638
52.2	7	5839	0.068	56.706
52.21	17	5856	0.165	56.871
52.26	295	6151	2.865	59.736
52.44	1	6152	0.010	59.746
52.49	16	6168	0.155	59.901
52.68	1	6169	0.010	59.911
52.73	2	6171	0.019	59.930
52.98	2	6173	0.019	59.949
53	7	6180	0.068	60.017
53.04	13	6193	0.126	60.144
53.05	15	6208	0.146	60.289
53.1	287	6495	2.787	63.077
53.28	1	6496	0.010	63.086
53.29	1	6497	0.010	63.096
53.34	22	6519	0.214	63.310
53.58	2	6521	0.019	63.329
53.83	1	6522	0.010	63.339
53.84	1	6523	0.010	63.349
53.85	2	6525	0.019	63.368
53.89	9	6534	0.087	63.455
53.9	20	6554	0.194	63.650
53.95	262	6816	2.544	66.194
54.19	11	6827	0.107	66.301
54.42	3	6830	0.029	66.330
54.65	1	6831	0.010	66.340
54.68	2	6833	0.019	66.359
54.59	6	6839	0.058	66.417
54.7	1	6840	0.010	66.427
54.74	21	6861	0.204	66.631
54.8	287	7148	2.787	69.418
54.98	1	7149	0.010	69.428
55.03	13	7162	0.126	69.554
55.27	3	7165	0.029	69.583
55.52	3	7168	0.029	69.613
55.54	3	7171	0.029	69.642
55.58	13	7184	0.126	69.768
55.59	10	7194	0.097	69.865
55.64	236	7430	2.292	72.157
55.83	1	7431	0.010	72.167
55.88	16	7447	0.155	72.322
56.12	1	7448	0.010	72.332
56.37	5	7453	0.049	72.380
56.39	7	7460	0.068	72.448
56.43	7	7467	0.068	72.516
56.44	12	7479	0.117	72.633
56.49	259	7738	2.515	75.148
56.67	4	7742	0.039	75.187
56.73	8	7750	0.078	75.265
57.23	11	7761	0.107	75.371
57.28	13	7774	0.126	75.498
57.33	268	8042	2.603	78.100
57.52	1	8043	0.010	78.110
57.57	15	8058	0.146	78.256
57.81	6	8064	0.058	78.314
58.06	4	8068	0.039	78.353
58.08	1	8069	0.010	78.363
58.12	10	8079	0.097	78.460
58.13	9	8088	0.087	78.547
58.18	203	8291	1.971	80.519
58.42	9	8300	0.087	80.606
58.66	3	8303	0.029	80.635
58.91	1	8304	0.010	80.645

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FPMS ALONE ROUNDED T-SCORES
18:25 MONDAY, APRIL 22, 1985
LEVEL=SECONDARY

ROUNDED T-SCORE

FPRNDT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
58.93	2	8306	0.019	80.664
58.97	8	8314	0.078	80.742
58.98	6	8320	0.058	80.800
59.03	199	8519	1.933	82.733
59.26	11	8530	0.107	82.840
59.76	1	8531	0.010	82.849
59.77	4	8535	0.039	82.888
59.81	1	8536	0.010	82.898
59.82	4	8540	0.039	82.937
59.87	180	8720	1.748	84.685
60.05	1	8721	0.010	84.695
60.06	1	8722	0.010	84.704
60.11	16	8738	0.155	84.860
60.6	2	8740	0.019	84.879
60.62	1	8741	0.010	84.889
60.66	9	8750	0.087	84.976
60.67	12	8762	0.117	85.093
60.72	175	8937	1.700	86.792
60.91	2	8939	0.019	86.812
60.96	10	8949	0.097	86.909
61.19	4	8953	0.039	86.948
61.45	2	8955	0.019	86.967
61.47	1	8956	0.010	86.977
61.51	8	8964	0.078	87.054
61.52	9	8973	0.087	87.142
61.57	179	9152	1.738	88.880
61.8	11	9163	0.107	88.987
62.04	1	9164	0.010	88.997
62.27	1	9165	0.010	89.007
62.31	6	9171	0.058	89.065
62.35	5	9176	0.049	89.113
62.36	3	9179	0.029	89.142
62.41	171	9350	1.661	90.803
62.46	1	9351	0.010	90.813
62.65	10	9361	0.097	90.910
62.89	2	9363	0.019	90.929
63.14	1	9364	0.010	90.939
63.16	2	9366	0.019	90.959
63.2	5	9371	0.049	91.007
63.21	4	9375	0.039	91.046
63.26	118	9493	1.146	92.192
63.5	7	9500	0.068	92.260
63.73	2	9502	0.019	92.279
64	3	9505	0.029	92.308
64.05	5	9510	0.049	92.357
64.06	4	9514	0.039	92.396
64.11	95	9609	0.923	93.318
64.34	8	9617	0.078	93.396
64.81	1	9618	0.010	93.406
64.83	1	9619	0.010	93.416
64.89	5	9624	0.049	93.464
64.9	5	9629	0.049	93.513
64.95	87	9716	0.845	94.358
65.13	1	9717	0.010	94.367
65.14	1	9718	0.010	94.377
65.19	3	9721	0.029	94.406
65.43	1	9722	0.010	94.416
65.69	2	9724	0.019	94.435
65.7	2	9726	0.019	94.455
65.74	1	9727	0.010	94.464
65.75	7	9734	0.068	94.532
65.8	88	9822	0.855	95.387
66.04	1	9823	0.010	95.397
66.53	2	9825	0.019	95.416
66.54	2	9827	0.019	95.436
66.59	12	9839	0.117	95.552
66.64	71	9910	0.690	96.242
67.39	1	9911	0.010	96.251
67.43	4	9915	0.039	96.290
67.44	2	9917	0.019	96.310
67.49	67	9984	0.651	96.960
68.23	1	9985	0.010	96.970
68.24	2	9987	0.019	96.989

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FPMS ALONE ROUNDED T-SCORES
18:25 MONDAY, APRIL 22, 1985
LEVEL=SECONDARY

ROUNDED T-SCORE

FPRNDT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
68.28	2	9989	0.019	97.009
68.29	2	9991	0.019	97.028
68.34	50	10041	0.486	97.514
68.57	3	10044	0.029	97.543
69.08	2	10046	0.019	97.562
69.13	4	10050	0.039	97.601
69.18	41	10091	0.398	97.999
69.36	1	10092	0.010	98.009
69.42	2	10094	0.019	98.029
69.93	2	10096	0.019	98.048
69.97	2	10098	0.019	98.067
69.98	1	10099	0.010	98.077
70.03	31	10130	0.301	98.378
70.27	1	10131	0.010	98.388
70.82	2	10133	0.019	98.407
70.88	24	10157	0.233	98.640
71.35	1	10158	0.010	98.650
71.62	2	10160	0.019	98.670
71.66	3	10163	0.029	98.699
71.67	2	10165	0.019	98.718
71.72	20	10185	0.194	98.912
71.96	2	10187	0.019	98.932
72.47	1	10188	0.010	98.941
72.52	2	10190	0.019	98.961
72.57	22	10212	0.214	99.175
73.31	2	10214	0.019	99.194
73.37	2	10216	0.019	99.213
73.42	22	10238	0.214	99.427
73.65	1	10239	0.010	99.437
73.89	1	10240	0.010	99.446
74.21	1	10241	0.010	99.456
74.26	11	10252	0.107	99.563
75.05	1	10253	0.010	99.573
75.11	9	10262	0.087	99.660
75.35	1	10263	0.010	99.670
75.85	1	10264	0.010	99.680
75.96	10	10274	0.097	99.777
76.8	5	10279	0.049	99.825
77.65	4	10283	0.039	99.864
77.88	1	10284	0.010	99.874
79.34	2	10286	0.019	99.893
79.53	1	10287	0.010	99.903
80.09	1	10288	0.010	99.913
80.19	4	10292	0.039	99.951
80.98	1	10293	0.010	99.961
81.03	1	10294	0.010	99.971
81.88	1	10295	0.010	99.981
82.73	2	10297	0.019	100.000

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VARIABLE=AVGT

MOMENTS

N	141	SUM WGTS	141
MEAN	49.4877	SUM	6977.76
STD DEV	8.22602	VARIANCE	67.6675
SKEWNESS	-0.551744	KURTOSIS	0.753238
USS	354786	CSS	9473.45
CV	16.6224	STD MEAN	0.692756
T:MEAN=0	71.4359	PROB>|T|	0.0001
SGN RANK	5005.5	PROB>|S|	0.0001
NUM ^= 0	141		

QUANTILES(DEF=4)

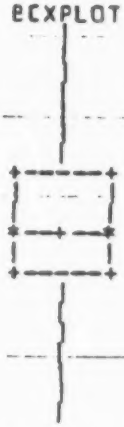
100% MAX	69.17	99%	67.0615
75% Q3	54.71	95%	62.837
50% MED	49.97	90%	60.228
25% Q1	44.2	10%	39.366
0% MIN	18.71	5%	34.054
		1%	23.645
RANGE	50.46		
Q3-Q1	10.51		
MODE	61.18		

EXTREMES

LOWEST	HIGHEST
18.71	62.92
30.46	63.42
30.81	63.65
31.93	64.15
32.7	69.17

```
STEM LEAF                            #
  68 2                               1
  66
  64 1                               1
  62 499946                          6
  60 368222                          6
  58 260358                          6
  56 1145512333                     10
  54 01126778856                    11
  52 1134567881245 59               11
  50 0244778913356 89               15
  48 0012346900223356678 9          20
  46 156688134                       9
  44 503467                          6
  42 34578933466 99                 12
  40 06 91459                        7
  38 2346                            4
  36
  34 0C17793                         7
  32 7                               1
  30 589                             3
  28
  26
  24
  22
  20
  18 7                               1
     ----+----+----+----+
```

BOXPLOT

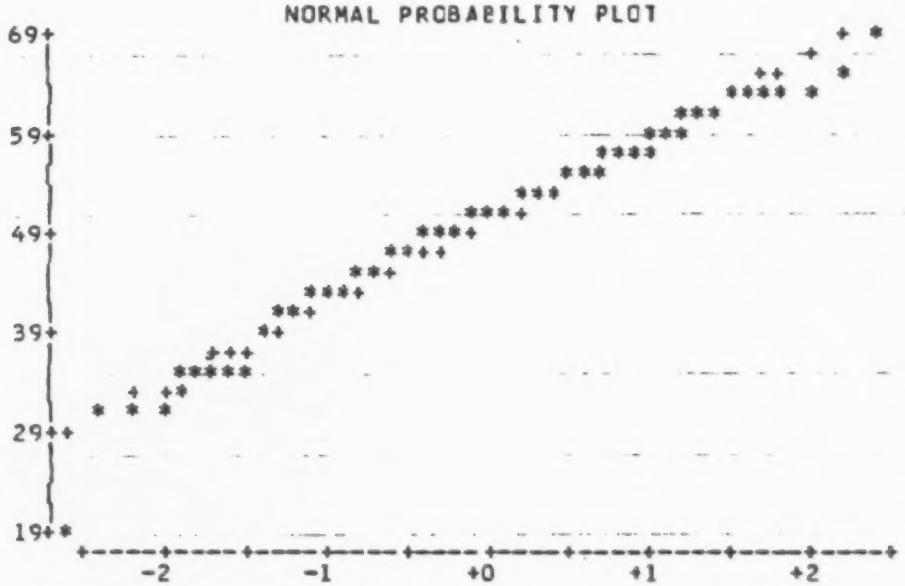


BEST COPY AVAILABLE

FPMS AND LIBRARY MEDIA 18:25 MONDAY, APRIL 22, 1985
LEVEL=ELEMENTARY
UNIVARIATE

VARIABLE=AVGT

NORMAL PROBABILITY PLOT



BEST COPY AVAILABLE

LEVEL=ELEMENTARY

AVGT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
18.71	1	1	0.709	0.709
30.46	1	2	0.709	1.418
30.81	1	3	0.709	2.128
31.93	1	4	0.709	2.837
32.7	1	5	0.709	3.546
34.01	1	6	0.709	4.255
34.05	1	7	0.709	4.965
34.09	1	8	0.709	5.674
34.67	2	10	1.418	7.092
34.9	1	11	0.709	7.801
35.29	1	12	0.709	8.511
39.19	1	13	0.709	9.220
39.35	1	14	0.709	9.929
39.43	1	15	0.709	10.638
39.63	1	16	0.709	11.348
40.04	1	17	0.709	12.057
40.62	1	18	0.709	12.766
40.89	1	19	0.709	13.475
41.12	1	20	0.709	14.184
41.43	1	21	0.709	14.894
41.51	1	22	0.709	15.603
41.86	1	23	0.709	16.312
42.28	1	24	0.709	17.021
42.36	1	25	0.709	17.730
42.52	1	26	0.709	18.440
42.67	1	27	0.709	19.149
42.79	1	28	0.709	19.858
42.94	1	29	0.709	20.567
43.25	1	30	0.709	21.277
43.44	1	31	0.709	21.986
43.57	1	32	0.709	22.695
43.6	1	33	0.709	23.404
43.91	2	35	1.418	24.823
44.49	1	36	0.709	25.532
44.99	1	37	0.709	26.241
45.28	1	38	0.709	26.950
45.37	1	39	0.709	27.660
45.61	1	40	0.709	28.369
45.68	1	41	0.709	29.078
46.15	1	42	0.709	29.787
46.49	1	43	0.709	30.496
46.61	1	44	0.709	31.206
46.65	1	45	0.709	31.915
46.76	1	46	0.709	32.624
46.84	1	47	0.709	33.333
47.07	1	48	0.709	34.043
47.31	1	49	0.709	34.752
47.38	1	50	0.709	35.461
47.96	1	51	0.709	36.170
48	1	52	0.709	36.879
48.08	1	53	0.709	37.589
48.16	1	54	0.709	38.298
48.35	1	55	0.709	39.007
48.39	1	56	0.709	39.716
48.62	1	57	0.709	40.426
48.89	1	58	0.709	41.135
48.97	1	59	0.709	41.844
49	1	60	0.709	42.553
49.24	2	62	1.418	43.972
49.25	1	63	0.709	44.681
49.35	1	64	0.709	45.390
49.52	1	65	0.709	46.099
49.58	1	66	0.709	46.809
49.63	1	67	0.709	47.518
49.74	1	68	0.709	48.227
49.82	1	69	0.709	48.936
49.89	1	70	0.709	49.645
49.97	1	71	0.709	50.355
50.17	1	72	0.709	51.064
50.4	2	74	1.418	52.482
50.67	1	75	0.709	53.191
50.74	1	76	0.709	53.901
50.78	1	77	0.709	54.610
50.9	1	78	0.709	55.319

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FPMS AND LIBRARY MEDIA

LEVEL=ELEMENTARY 10:25 MONDAY, APRIL 22, 1985

AVGT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
51.13	1	79	0.709	56.028
51.25	1	80	0.709	56.738
51.29	1	81	0.709	57.447
51.48	1	82	0.709	58.156
51.59	1	83	0.709	58.865
51.83	1	84	0.709	59.574
51.86	1	85	0.709	60.284
52.1	1	86	0.709	60.993
52.14	1	87	0.709	61.702
52.25	1	88	0.709	62.411
52.44	1	89	0.709	63.121
52.52	1	90	0.709	63.830
52.6	1	91	0.709	64.539
52.68	1	92	0.709	65.248
52.79	2	94	1.418	66.667
53.1	1	95	0.709	67.376
53.22	1	96	0.709	68.085
53.38	1	97	0.709	68.794
53.49	1	98	0.709	69.504
53.53	1	99	0.709	70.213
53.87	1	100	0.709	70.922
54.04	1	101	0.709	71.631
54.07	1	102	0.709	72.340
54.11	1	103	0.709	73.050
54.22	1	104	0.709	73.759
54.57	1	105	0.709	74.468
54.69	1	106	0.709	75.177
54.73	1	107	0.709	75.887
54.8	1	108	0.709	76.596
54.84	1	109	0.709	77.305
54.92	1	110	0.709	78.014
55.57	1	111	0.709	78.723
56.08	2	113	1.418	80.142
56.39	1	114	0.709	80.851
56.46	2	116	1.418	82.270
57.12	1	117	0.709	82.979
57.16	1	118	0.709	83.688
57.27	1	119	0.709	84.397
57.35	2	121	1.418	85.816
58.16	1	122	0.709	86.525
58.63	1	123	0.709	87.234
58.97	1	124	0.709	87.943
59.32	1	125	0.709	88.652
59.48	1	126	0.709	89.362
59.82	1	127	0.709	90.071
60.33	1	128	0.709	90.780
60.64	1	129	0.709	91.489
60.75	1	130	0.709	92.199
61.18	3	133	2.128	94.326
62.45	1	134	0.709	95.035
62.88	2	136	1.418	96.454
62.92	1	137	0.709	97.163
63.42	1	138	0.709	97.872
63.65	1	139	0.709	98.582
64.15	1	140	0.709	99.291
69.17	1	141	0.709	100.000

BEST COPY AVAILABLE

LEVEL=SECONDARY

UNIVARIATE

VARIABLE=AVGT

MOMENTS

N	141	SUM WGTS	141
MEAN	50.5056	SUM	7121.29
STD DEV	6.69854	VARIANCE	44.8704
SKEWNESS	-0.658887	KURTOSIS	0.468569
USS	365947	CSS	6281.86
CV	13.263	STD MEAN	0.564119
T:MEAN=0	89.5301	PROB>|T|	0.0001
SGN RANK	5005.5	PROB>|S|	0.0001
NUM ^= 0	141		

QUANTILES(DEF=4)

100% MAX	63.53	99%	62.9966
75% Q3	55.145	95%	60.652
50% MED	51.05	90%	59.138
25% Q1	46.47	10%	40.254
0% MIN	29	5%	37.318
		1%	30.197
RANGE	34.53		
Q3-Q1	8.675		
MODE	53.37		

EXTREMES

LOWEST	HIGHEST
29	60.93
31.85	61.02
33.25	61.33
35.26	62.26
36.69	63.53

STEM	LEAF	#	BOXPLOT
62	35	2	
60	111577903	9	
58	01578235	8	
56	3378S1248	9	
54	00278903359999	14	+-----+
52	012334555778834444469	20	| |
50	022555778995023667789	20	*--+--*
48	35678991335666999	18	| |
46	002244565789	12	+-----+
44	022133789	9	|
42	66134	5	|
40	8	1	|
38	2346719	7	|
36	7S2	3	|
34	3	1	|
32	3	1	0
30	8	1	0
28	0	1	0

----+----+----+----+

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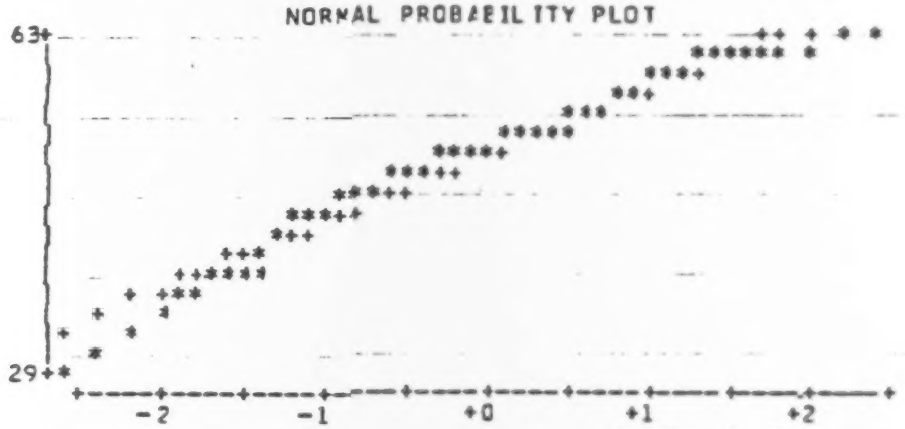
FPMS AND LIBRARY PECI/ 10:25 MONDAY, APRIL 22, 1985

LEVEL=SECONDARY

UNIVARIATE

VARIABLE=AVGT

NORMAL PROBABILITY PLOT



BEST COPY AVAILABLE

AVGT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
29	1	1	0.709	0.709
31.85	1	2	0.709	1.418
33.25	1	3	0.709	2.128
35.26	1	4	0.709	2.837
36.69	1	5	0.709	3.546
36.87	1	6	0.709	4.255
37.22	1	7	0.709	4.965
38.2	1	8	0.709	5.674
38.26	1	9	0.709	6.383
38.4	1	10	0.709	7.092
38.57	1	11	0.709	7.801
38.67	1	12	0.709	8.511
39.1	1	13	0.709	9.220
39.86	1	14	0.709	9.929
41.83	1	15	0.709	10.638
42.57	1	16	0.709	11.348
42.59	1	17	0.709	12.057
43.11	1	18	0.709	12.766
43.33	1	19	0.709	13.475
43.41	1	20	0.709	14.184
44.01	1	21	0.709	14.894
44.17	1	22	0.709	15.603
44.2	1	23	0.709	16.312
45.12	1	24	0.709	17.021
45.31	1	25	0.709	17.730
45.33	1	26	0.709	18.440
45.73	1	27	0.709	19.149
45.79	1	28	0.709	19.858
45.86	1	29	0.709	20.567
46.02	2	31	1.418	21.986
46.18	1	32	0.709	22.695
46.23	1	33	0.709	23.404
46.36	1	34	0.709	24.113
46.44	1	35	0.709	24.823
46.5	1	36	0.709	25.532
46.6	1	37	0.709	26.241
46.95	1	38	0.709	26.950
47.71	1	39	0.709	27.660
47.82	1	40	0.709	28.369
47.93	1	41	0.709	29.078
48.27	1	42	0.709	29.787
48.51	1	43	0.709	30.496
48.59	1	44	0.709	31.206
48.72	1	45	0.709	31.915
48.82	1	46	0.709	32.624
48.88	1	47	0.709	33.333
48.93	1	48	0.709	34.043
49.06	1	49	0.709	34.752
49.25	2	51	1.418	36.170
49.54	1	52	0.709	36.879
49.56	1	53	0.709	37.589
49.59	1	54	0.709	38.298
49.62	1	55	0.709	39.007
49.86	2	57	1.418	40.426
49.91	1	58	0.709	41.135
49.94	1	59	0.709	41.844
50	1	60	0.709	42.553
50.16	1	61	0.709	43.262
50.17	1	62	0.709	43.972
50.46	1	63	0.709	44.681
50.48	1	64	0.709	45.390
50.52	1	65	0.709	46.099
50.7	1	66	0.709	46.809
50.72	1	67	0.709	47.518
50.75	1	68	0.709	48.227
50.86	1	69	0.709	48.936
50.94	1	70	0.709	49.645
51.05	1	71	0.709	50.355
51.18	1	72	0.709	51.064
51.25	1	73	0.709	51.773
51.6	2	75	1.418	53.191
51.73	2	77	1.418	54.610
51.79	1	78	0.709	55.319
51.86	1	79	0.709	56.028

BEST COPY AVAILABLE

LEVEL=SECONDARY

AVGT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
52	1	80	0.709	56.738
52.1	1	81	0.709	57.447
52.21	1	82	0.709	58.156
52.25	1	83	0.709	58.865
52.33	1	84	0.709	59.574
52.45	1	85	0.709	60.284
52.47	1	86	0.709	60.993
52.49	1	87	0.709	61.702
52.53	1	88	0.709	62.411
52.66	1	89	0.709	63.121
52.71	1	90	0.709	63.830
52.77	1	91	0.709	64.539
52.83	1	92	0.709	65.248
53.32	1	93	0.709	65.957
53.37	3	96	2.128	68.085
53.4	1	97	0.709	68.794
53.56	1	98	0.709	69.504
53.94	1	99	0.709	70.213
53.98	2	101	1.418	71.631
54.19	1	102	0.709	72.340
54.67	1	103	0.709	73.050
54.78	1	104	0.709	73.759
54.91	1	105	0.709	74.468
55.01	1	106	0.709	75.177
55.28	1	107	0.709	75.887
55.3	1	108	0.709	76.596
55.49	1	109	0.709	77.305
55.86	1	110	0.709	78.014
55.91	1	111	0.709	78.723
55.94	2	113	1.418	80.142
56.28	1	114	0.709	80.851
56.34	1	115	0.709	81.560
56.73	1	116	0.709	82.270
56.81	1	117	0.709	82.979
56.89	1	118	0.709	83.688
57.15	1	119	0.709	84.397
57.18	1	120	0.709	85.106
57.36	1	121	0.709	85.816
57.79	1	122	0.709	86.525
58	1	123	0.709	87.234
58.08	1	124	0.709	87.943
58.48	1	125	0.709	88.652
58.72	1	126	0.709	89.362
58.77	1	127	0.709	90.071
59.23	1	128	0.709	90.780
59.25	1	129	0.709	91.489
59.53	1	130	0.709	92.199
60.06	1	131	0.709	92.908
60.14	2	133	1.418	94.326
60.49	1	134	0.709	95.035
60.67	1	135	0.709	95.745
60.73	1	136	0.709	96.454
60.93	1	137	0.709	97.163
61.02	1	138	0.709	97.872
61.33	1	139	0.709	98.582
62.26	1	140	0.709	99.291
63.53	1	141	0.709	100.000

BEST COPY AVAILABLE

UNIVARIATE

VARIABLE=AVGT

MOMENTS

N	103	SUM WGTS	103
MEAN	49.601	SUM	5108.9
STD DEV	7.03434	VARIANCE	49.4819
SKEWNESS	0.332097	KURTOSIS	-0.17528
USS	258454	CSS	5047.16
CV	14.1819	STD MEAN	0.693114
T:MEAN=0	71.5625	PROB>|T|	0.0001
SGN RANK	2678	PROB>|S|	0.0001
NUM ^= 0	103		

QUANTILES(DEF=4)

100% MAX	65.4	99%	69.1875
75% Q3	54.55	95%	61.72
50% MED	48.61	90%	59.896
25% Q1	44.38	10%	41.496
0% MIN	32.28	5%	38.398
		1%	32.458
RANGE	37.12		
Q3-Q1	10.17		
MODE	40.78		

EXTREMES

LOWEST	HIGHEST
32.28	61.76
36.73	62.61
37.16	63.45
38.02	64.05
38.23	65.4

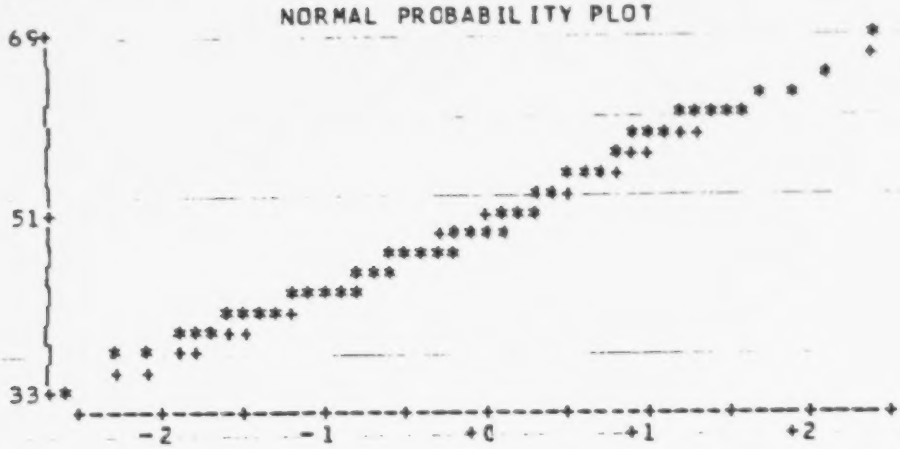
STEM	LEAF	#	BOXPLOT
68	4	1	
66			
64	1	1	
62	64	2	
60	1335668	6	
58	880246	6	
56	0253	4	
54	3552468	7	
52	000288155	9	
50	35778896	8	
48	00244680003 39	13	
46	113799991 1136	13	
44	046246678	9	
42	05999357799	11	
40	8824666	7	
38	021	3	
36	72	2	
34			
32	3	1	

BEST COPY AVAILABLE

FPMS AND STUDENT SERVICES
LEVEL=ELEMENTARY 18:25 MONDAY, APRIL 22, 1985
UNIVARIATE

VARIABLE=AVGT

NORMAL PROBABILITY PLOT



BEST COPY AVAILABLE

LEVEL=ELEMENTARY

AVGT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
32.28	1	1	0.971	0.971
36.73	1	2	0.971	1.942
37.16	1	3	0.971	2.913
38.02	1	4	0.971	3.883
38.23	1	5	0.971	4.854
39.07	1	6	0.971	5.825
40.78	2	8	1.942	7.767
41.2	1	9	0.971	8.738
41.42	1	10	0.971	9.709
41.61	1	11	0.971	10.680
41.62	2	13	1.942	12.621
42.04	1	14	0.971	13.592
42.47	1	15	0.971	14.563
42.89	2	17	1.942	16.505
42.9	1	18	0.971	17.476
43.33	1	19	0.971	18.447
43.54	1	20	0.971	19.417
43.74	2	22	1.942	21.359
43.93	1	23	0.971	22.330
43.95	1	24	0.971	23.301
43.96	1	25	0.971	24.272
44.38	1	26	0.971	25.243
44.61	1	27	0.971	26.214
45.23	1	28	0.971	27.184
45.45	1	29	0.971	28.155
45.64	2	31	1.942	30.097
45.66	1	32	0.971	31.068
45.85	1	33	0.971	32.039
46.08	2	35	1.942	33.981
46.29	1	36	0.971	34.951
46.71	1	37	0.971	35.922
46.88	1	38	0.971	36.893
46.92	2	40	1.942	38.835
46.93	1	41	0.971	39.806
47.12	1	42	0.971	40.777
47.14	1	43	0.971	41.748
47.15	1	44	0.971	42.718
47.33	1	45	0.971	43.689
47.58	1	46	0.971	44.660
48	2	48	1.942	46.602
48.21	1	49	0.971	47.573
48.39	1	50	0.971	48.544
48.4	1	51	0.971	49.515
48.61	1	52	0.971	50.485
48.82	1	53	0.971	51.456
49.02	1	54	0.971	52.427
49.05	2	56	1.942	54.369
49.25	1	57	0.971	55.340
49.26	1	58	0.971	56.311
49.91	1	59	0.971	57.282
50.31	1	60	0.971	58.252
50.5	1	61	0.971	59.223
50.74	2	63	1.942	61.165
50.76	2	65	1.942	63.107
50.94	1	66	0.971	64.078
51.58	1	67	0.971	65.049
52	1	68	0.971	66.019
52.01	1	69	0.971	66.990
52.02	1	70	0.971	67.961
52.23	1	71	0.971	68.932
52.85	2	73	1.942	70.874
53.06	1	74	0.971	71.845
53.49	1	75	0.971	72.816
53.5	1	76	0.971	73.786
54.34	1	77	0.971	74.757
54.55	2	79	1.942	76.699
55.2	1	80	0.971	77.670
55.41	1	81	0.971	78.641
55.61	1	82	0.971	79.612
55.81	1	83	0.971	80.583
56.04	1	84	0.971	81.553
56.24	1	85	0.971	82.524
56.47	1	86	0.971	83.495
57.31	1	87	0.971	84.466

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FPMS AND STUDENT SERVICES
18:25 MONDAY, APRIL 22, 1985

LEVEL=ELEMENTARY

AVGT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
58.78	1	88	0.971	85.437
58.81	1	89	0.971	86.408
59.01	1	90	0.971	87.379
59.2	1	91	0.971	88.350
59.41	1	92	0.971	89.320
59.65	1	93	0.971	90.291
60.06	1	94	0.971	91.262
60.91	1	95	0.971	92.233
61.34	1	96	0.971	93.204
61.53	1	97	0.971	94.175
61.56	1	98	0.971	95.146
61.76	1	99	0.971	96.117
62.61	1	100	0.971	97.087
63.45	1	101	0.971	98.058
64.09	1	102	0.971	99.029
69.4	1	103	0.971	100.000

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UNIVARIATE

VARIABLE=AVGT

MOMENTS

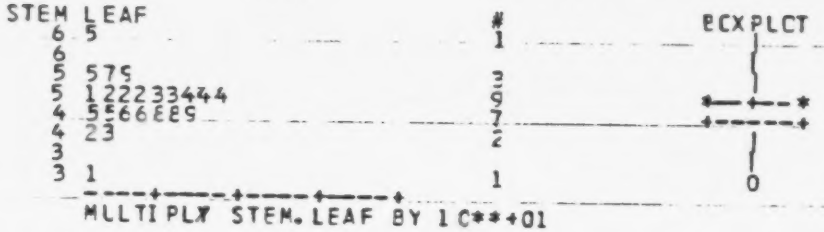
N	23	SUM WGTS	23
MEAN	50.1687	SUM	1153.88
STD DEV	6.80677	VARIANCE	46.3321
SKEWNESS	-0.668041	KURTOSIS	2.37925
USS	58908	CSS	1019.31
CV	13.5678	STD MEAN	1.41931
T:MEAN=0	35.3473	PRCB>|T|	0.0001
SGN RANK	138	PRCB>|S|	0.0001
NUM ¬= 0	23		

QUANTILES(DEF=4)

100% MAX	64.96	99%	64.96
75% Q3	53.96	95%	63.7319
50% MED	51.63	90%	58.06
25% Q1	45.92	10%	42.45
0% MIN	30.69	5%	32.974
		1%	30.69
RANGE	34.27		
Q3-Q1	8.03999		
MODE	48.46		

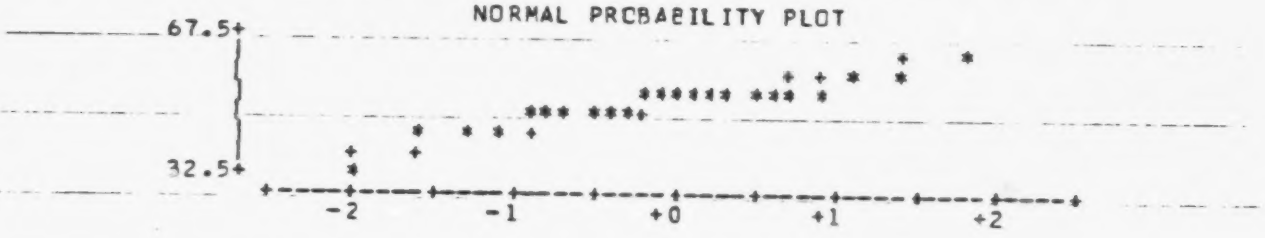
EXTREMES

LOWEST	HIGHEST
30.69	54.17
42.11	54.65
42.96	56.62
44.65	58.82
45.08	64.96



MULTIPLY STEM.LEAF BY 10**+01

NORMAL PROBABILITY PLOT



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FPMS AND STUDENT SERVICES
18:25 MONDAY, APRIL 22, 1985

LEVEL=SECONDARY

AVGT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
30.69	1	1	4.348	4.348
42.11	1	2	4.348	8.696
42.96	1	3	4.348	13.043
44.65	1	4	4.348	17.391
45.08	1	5	4.348	21.739
45.92	1	6	4.348	26.087
46.34	1	7	4.348	30.435
48.46	2	9	8.696	39.130
49.31	1	10	4.348	43.478
50.99	1	11	4.348	47.826
51.63	1	12	4.348	52.174
52.05	1	13	4.348	56.522
52.26	1	14	4.348	60.870
52.9	1	15	4.348	65.217
53.11	1	16	4.348	69.565
53.54	1	17	4.348	73.913
53.96	1	18	4.348	78.261
54.17	1	19	4.348	82.609
54.59	1	20	4.348	86.957
56.92	1	21	4.348	91.304
58.82	1	22	4.348	95.652
64.96	1	23	4.348	100.000

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UNIVARIATE

VARIABLE=AVGT

MOMENTS

N	23	SUM WGTS	23
MEAN	48.663	SUM	1119.25
STD DEV	10.6593	VARIANCE	113.621
SKEWNESS	-0.689093	KURTOSIS	-0.655699
USS	56965.8	CSS	2499.65
CV	21.9043	STD MEAN	2.22262
T:MEAN=0	21.8945	PROB>|T|	0.0001
SGN RANK	138	PROB>|S|	0.0001
NUM ^= 0	23		

QUANTILES(DEF=4)

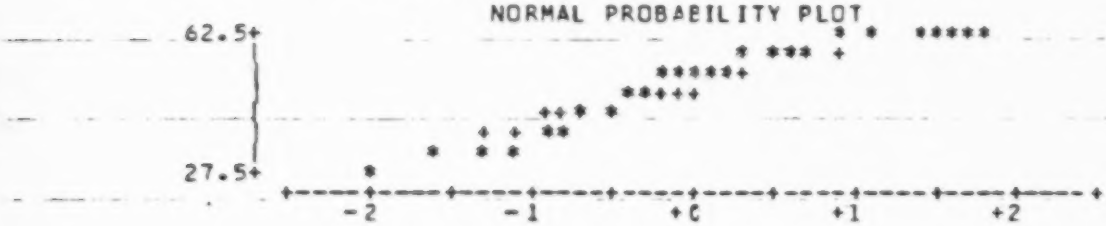
100% MAX	60.84	99%	60.84
75% Q3	58.06	95%	60.84
50% MED	52.28	90%	60.636
25% Q1	39.78	10%	31.652
0% MIN	25.98	5%	26.784
		1%	25.98
RANGE	34.86		
Q3-Q1	18.28		
MODE	60.84		

EXTREMES

LOWEST	HIGHEST
25.98	59.32
30	60.06
34.13	60.32
34.36	60.84
37.19	60.84

```
STEM LEAF                          #          BOXPLOT
   6 0011                          4             |
   5 6689                          4          +-----+
   5 12444                         5          *-----*
   4 78                            2          |  +  |
   4 034                           3          +-----+
   3 7                             1             |
   3 044                           3             |
   2 6                             1
   ----+----+----+----+
   MULTIPLY STEM.LEAF BY 10**+01
```

NORMAL PROBABILITY PLOT



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18:25 MONDAY, APRIL 22, 1585

AVGT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
25.98	1	1	4.348	4.348
30	1	2	4.348	8.696
34.13	1	3	4.348	13.043
34.36	1	4	4.348	17.391
37.19	1	5	4.348	21.739
39.78	1	6	4.348	26.087
43.18	1	7	4.348	30.435
44.39	1	8	4.348	34.783
46.73	1	9	4.348	39.130
48.26	1	10	4.348	43.478
51.04	1	11	4.348	47.826
52.28	1	12	4.348	52.174
53.54	1	13	4.348	56.522
53.78	1	14	4.348	60.870
53.8	1	15	4.348	65.217
55.55	1	16	4.348	69.565
55.78	1	17	4.348	73.913
58.06	1	18	4.348	78.261
59.33	1	19	4.348	82.609
60.08	1	20	4.348	86.957
60.33	1	21	4.348	91.304
60.84	2	23	8.696	100.000

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UNIVARIATE

VARIABLE=AVGT

MOMENTS

N	4	SUM WGTS	4
MEAN	52.705	SUM	210.82
STD DEV	6.7658	VARIANCE	45.776
SKEWNESS	-0.718073	KURTOSIS	-0.79962
USS	11248.6	CSS	137.328
CV	12.8371	STD MEAN	3.3829
T:MEAN=0	15.5798	PROB>|T|	.0005746 17
SGN RANK	5	PROB>|S|	0.100348
NUM ¬= 0	4		

QUANTILES(DEF=4)

100% MAX	59.3	99%	59.3
75% Q3	58.6025	95%	59.3
50% MED	53.785	90%	59.3
25% Q1	45.7275	10%	43.95
0% MIN	43.95	5%	43.95
		1%	43.95
RANGE	15.35		
Q3-Q1	12.875		
MODE	43.95		

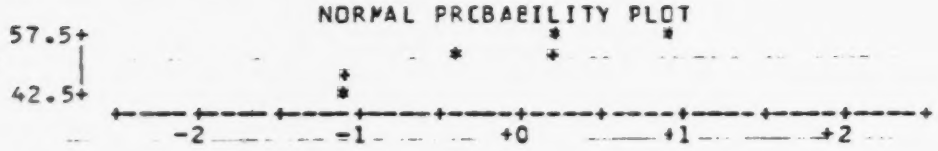
EXTREMES

LOWEST	HIGHEST
43.95	43.95
51.06	51.06
56.51	56.51
59.3	59.3

STEM	LEAF	#	BOXPLOT
5	79	2	+-----+
5	1	1	*--+--*
4			+-----+
4	4	1	|

MULTIPLY STEM.LEAF BY 10**+01

NORMAL PROBABILITY PLOT



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Appendix I

Examples of Performance Score Reports

RALPH D. TURLINGTON
COMMISSIONER

STATE OF FLORIDA
DEPARTMENT OF EDUCATION
TALLAHASSEE 32301

GARFIELD W. WILSON
DIRECTOR
OFFICE OF TEACHER EDUCATION, CERTIFICATION & STAFF DEVELOPMENT

April 19, 1985

MEMORANDUM

TO: Commissioner Ralph Turlington

FROM: Garfield W. Wilson GW

SUBJECT: Performance Score Reports

The two attached pages reflect the two messages that we developed with your assistance to be sent to candidates for the Master Teacher Program. Candidates who score at or above the fiftieth percentile will receive Message No. 1. Candidates who score below the fiftieth percentile will receive Message No. 2.

GWW/bf

Attachments

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Message No. 1

Performance Score Report

Your performance evaluation score for the 1984-85 State Master Teacher Program is at the _____th percentile. All percentile scores at or above the 75th percentile meet the performance standard for the Master Teacher Program.

Your total performance evaluation score may be increased if additional evaluation points have been recommended and approved pursuant to State Board Rule 6A-4.46. The statewide compilation of additional evaluation points has not been completed.

Your final performance score may be obtained after June 1, by written request to:

Dr. Garfield Wilson
Collins Building, G-20
Tallahassee, Fl 32301

A self-addressed envelope should accompany the request.

Notice: This report goes to all candidates who scored at or above the 50th percentile for performance evaluation in the State Master Teacher Program. The exact score is typed in the blank in the first paragraph.

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Message No. 2

PERFORMANCE SCORE REPORT

Your performance evaluation score for the 1984-85 State Master Teacher Program is below the 50th percentile and did not meet the qualifying requirement for the associate master teacher endorsement.

Your exact performance score may be obtained after June 1, by written request to:

Dr. Garfield Wilson
Collins Building, G-20
Tallahassee, Fl 32301

A self-addressed envelope should accompany the request.

Notice: This report goes to all candidates who scored below the 50th percentile for performance evaluation in the State Master Teacher Program.

Appendix J

Distribution of Top Quarter by District

District/Institution	Top 25 Percent	Number of Applicants
Alachua	14.6512	430
Baker	37.8947	38
Bay	31.9876	322
Bradford	37.0370	54
Brevard	18.6598	970
Broward	32.1267	2873
Calhoun	25.0000	24
Charlotte	20.4819	83
Citrus	29.4118	153
Clay	14.5714	350
Collier	9.4650	243
Columbia	23.4043	94
Dade	26.1790	3541
Desoto	3.3333	30
Dixie	26.6667	15
Duval	16.2757	1364
Escambia	53.0201	894
Flagler	70.0000	20

District/Institution	Top 25 Percent	Number of Applicants
Franklin	13.0435	23
Gadsden	17.2414	87
Glades	0.0000	7
Gulf	9.0909	11
Hamilton	20.0000	10
Hardee	10.0000	50
Hendry	21.3115	61
Hernando	35.5263	76
Highlands	13.1783	129
Hillsborough	32.5230	1522
Holmes	21.9512	41
Indian River	38.9262	149
Jackson	36.4198	162
Jefferson	11.1111	18
Lafayette	12.5000	16
Lake	16.0000	275
Lee	24.8307	443
Leon	56.0000	275
Levy	10.9375	64
Liberty	17.3913	23
Madison	16.6667	24
Manatee	22.8175	504
Marion	35.2459	366
Martin	11.4504	131

District/Institution	Top 25 Percent	Number of Applicants
Monroe	48.7179	156
Nassau	26.6667	90
Okaloosa	36.9369	444
Okeechobee	29.8246	57
Orange	30.1498	1068
Osceola	28.1250	96
Palm Beach	19.6341	820
Pasco	29.0541	444
Pinellas	22.6394	879
Polk	15.4057	1097
Putnam	40.0000	180
St. Johns	37.1622	148
St. Lucie	22.9885	174
Santa Rosa	34.9057	212
Sarasota	27.7045	379
Seminole	26.8331	641
Sumter	38.4615	39
Suwannee	28.5714	56
Taylor	7.3171	41
Union	33.3333	6
Volusia	20.6452	465
Wakulla	30.5556	36
Walton	33.3333	36
Washington	20.0000	30

District/Institution	Top 25 Percent	Number of Applicants
FL School Deaf & Blind	19.4444	36
PK Yonge Lab School	0.0000	12
FL State Dev. Research School	30.0000	10
AD Henderson University School	0.0000	12
FL A&M University School	16.6667	6
Other	50.0000	8